STATE, COMMUNITY AND RURAL HEALTH IN INDIA: AN EVALUATION OF NRHM IN MAJORITY AND MINORITY CONCENTRATED VILLAGES OF DISTRICT ALIGARH

THESIS

SUBMITTED FOR THE AWARD OF THE DEGREE OF

Doctor of Philosophy

IN

SOCIAL WORK

BY

AFZAL SAYEED

UNDER THE SUPERVISION OF

PROF. ABDUL WAHEED

DEPARTMENT OF SOCIAL WORK
ALIGARH MUSLIM UNIVERSITY
ALIGARH (INDIA)

2015

Dedicated

To

My Parents

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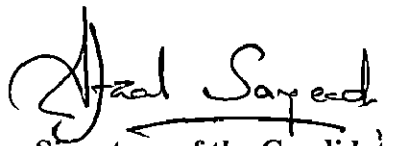

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ACKNOWLEDGEMENT

I am most indebted to Almighty ALLAH whose mercifulness and gracious blessings gave me required devotion for the completion of this thesis.

I am deeply indebted to my supervisor, ***Professor Abdul Waheed*** for his constant inspiration, inestimable motivation, kind support, expert advice and constructive comments throughout the completion of this work. His wide knowledge, ideas and logical way of thinking have been great value to me. His keen interest and insistence on quality has made this work valuable. I shall remain ever obliged to him especially for making me understand the actual meaning of doing research. I also owe a debt of gratitude to ***Professor. N.A.K Durrani***, Chairman, Department of Social Work, without whom, the final submission of my thesis would not have been possible.

I would like to express my utter gratitude to ***Dr. Naseem Ahmad Khan***, Department of Social Work, AMU for his cooperation during my research work and at the time of submission my thesis. I shall also sincerely thank all the stalwart academicians of Department of Sociology & Social Work, especially *Prof. Abdul Matin, Prof. Zainuddin, Prof. Mohd. Akram, Dr. P. K. Mathur, Dr. (Mrs) Sheerin Sadiq, Dr. Mohd Tahir, Dr. (Mrs) Samina, Dr. Atta-ur-Rahman* and all other faculty members for their constant academic guidance, help and co-operation during the course of my research work.

I acknowledge with gratitude the inspiration and moral support extended by my beloved teacher and mentor ***Professor. Mohd Shahid***, MANUU, Hyderabad. My special thanks to ***Mr. Gyanendra Mishra***, who extended all the help and co-operation right from the first day of the journey. I would also like to thank *Mr. Faizan Khan* who helped me in making the initial contact with the PHC & CHCs staffs and ASHAs. And I had the unique privilege of having *Ms. Sufia Azmat, Dr. Sheikh Belal, Dr. Pundheer, Dr. Suhail Akhtar, Fayaz Ahmad Bhatt, Masood Basharatullah, Dr. Naseem Ansari, Dr. Rehan Khan, Dr. Manzoor Alam, Peer Mohd Asharf, Dr. Masroor Ahmad, Dr. Shahnawaz Alam,* and *Mohd Arif* as my constant companions and energizers, who shared all my beautiful as well as odd moments.

Special thanks are due to *Dr. Shyna Saif, Sameera Khanam, Idress Mujtaba, Tariq Najamee, Mohd Asif Iqbal* and *Mohammad Suhail* for their technical help and kind assistance in proof reading of the thesis.

I owe my thanks to *Dr. Ebney Hasan,* In-charge, Seminar Library, Department of Sociology & Social Work, AMU and the staff of Maulana Azad Library, AMU, Aligarh, and ICSSR, New Delhi for providing me assistance during my research. Further, I am thankful to *Aijaz Khan, Irfan Bhai, Vishal Bhai, Zafar Bhai, Chand Bhai, Kashif, Tariq, Manoj* and other office staff of Department of Social Work and Sociology, Aligarh Muslim University, Aligarh for their constant support and help.

I am extremely thankful to my friends and colleagues *Raghib Anwer, Abu Sadiq Mohd. Syoheb, Aftab Alam, Iftekhar Alam, Shahid Kamal, Mahmood Akhtar, Mumtaz Masood, Zafar Iqbal , and Hashmi* for their co-operation, encouragement and moral support from time to time. Also, I cannot forget to extend my sincere thanks to all my well-wishers in this acknowledgement.

Finally, with a profound sense of gratitude and love I must express the kind and generous support that I have been receiving from my beloved parents: ***Mrs. Jahan Ara*** and ***Mr. Zafrus Sayeed,*** sisters *Mrs. Shahina Ismail* and *Mrs. Razia Nasrin*, and all other family members for their blessings. They have been great source of inspiration throughout my research work. Especially my elder brother, *Dr.* ***Iqbal Sayeed***, who provided me strength, support and courage to overcome the obstacles that came my way during the pursuit of my research. My special thanks are also due to my adored sister-in-law *Dr.(Mrs) Bushra Wali* and brother-in-laws *Mr. Hasnain Ismail* and *Syed Ahmad Tanwir*. I am also thankful to my better-half ***Rahela Javed*** for showing tender love and care towards me and remaining by my side throughout this long journey.

My special thanks are also due to my mother-in-law *Mrs. Husneara Khatoon,* brother-in-laws *Zahid Javed* and *Rashid Javed* and their better halves, and other relatives for their everlasting moral support and patience without which it would have been impossible for me to accomplish the arduous task of completing this work.

The kids *Maryam, Tahseen, Aatir, Samina, Ebad, Aafia*, sweet twins *Aaiza & Madiha,* beloved *Ayat, Yusra* and little *Ayesha* and *Azhaan* also need to be acknowledged for their pristine love and innocent ways of expression that made me to understand the wordless language of emotions.

AFZAL SAYEED

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ABBREVIATIONS

AD	Anno Domini
AHS	Annual Health Survey
AIDS	Acquired Immunodeficiency Syndrome
ANC	Ante-Natal Care
ANM	Auxiliary Nurse Midwife
ASHA	Accredited Social Health Activist
AWW	Anganwari Worker
AYUSH	Ayurveda, Yoga & Naturopathy, Unani, Siddha & Homoeopathy
BC	Before Christ
BCC	Behaviour Change and Communication
BMI	Body Mass Index
BPL	Below Poverty Line
CBR	Crude Birth Rate
CDP	Community Development Project
CHC	Community Health Center
CSSM	Child Survival and Safe Motherhood Programme
CVD	Cardiovascular disease
DDT	Dichloro Diphenyl Trichloroethane
DHM	District Health Mission
DLHS	District Level Household Survey
DOTS	Direct Observation Treatment Scheme
DPSP	Directive Principles of State Policy
FRU	First Referral Unit
GDP	Gross Domestic Product
HFS	High Focus States
HIV	Human Immunodeficiency Virus
ICDS	Integrated Child Development Services
ICTC	Integrated Counselling and Testing Center
IEC	Information Education and Communication
IFA	Iron Folic Acid
IMR	Infant Mortality Rate
IPD	Indoor Patient Department
IPHS	Indian Public Health Standard
IUD	Intra-Uterine Contraceptive Device
JSSK	Janani Shishu Suraksha Karyakram
JSY	Janani Suraksha Yojana
LHV	Lady Health Visitor
MBBS	Bachelor of Medicine and Bachelor of Surgery
MCV	Minority Concentrated Village

MDGs	Millennium Development Goals
MMR	Maternal Mortality Rate
MNP	Minimum Needs Programme
MO	Medical Officer
MOIC	Medical Officer In-Charge
MPW	Multi-purpose Worker
NFHS	National Family Health Survey
NGOs	Non-Governmental Organisations
NHM	National Health Mission
NHP	National Health Policy
NMEP	National Malaria Eradication Programme
NPC	National Planning Committee
NPCDCS	National Programme for Prevention and Control of Cancer, Diabetes, CVD and Stroke
NRHM	National Rural Health Mission
NSV	No-Scalpel Vasectomy
OBC	Other Backward Classes
OPD	Out Patient Department
PHC	Primary Health Center
PPP	Public-Private Partnership
PRI	Panchayati Raj Institution
RCH	Reproductive and Child Health
RKS	Rogi Kalyan Samiti
RNTCP	Revised National Tuberculosis Control Programme
RTI	Reproductive Tract Infection
SC	Sub-Center
SPSS	Statistical Package for Social Scientist
SRS	Sample Registration System
SSA	Sarva Sikhsha Abhiyaan
STI	Sexually Transmitted Infection
TB	Tuberculosis
TFR	Total Fertility Rate
TT	Tetanus Toxoid
UN	United Nation
UNICEF	United Nation Children's Fund
UP	Uttar Pradesh
VHG	Village Health Guide
VHND	Village Health and Nutrition Day
VHSC	Village Health & Sanitation Committee
WHO	World Health Organisation

GLOSSARY

Terms/Words	Meaning/Explanation
Bahanji	ANM
Dabang	Goon
Gram	Village
Janani	One Who Gives Birth
Kalyan	Welfare
Katcha	House made of mud
Kotha	Houses typically built on slopes with stones, wood, wood logs and mud in which vertically cutted slope joined with the roof forms the backside of the structure.
Panchayat	A village council in which members are elected democratically
Pucca	Concrete
Rogi	Patient
Sabha	Union of peoples
Safai Karamchari	Sweeper
Samiti	Committee
Sangathan	Organization
Sarpanch	Head of five members elected at grass root level democracy-village local body
Suruksha	Safety
Tehsil	Sub-district
Yojana	Planning

Introduction

INTRODUCTION

Public health is indeed an important parameter of socio-economic development based on which the societies across the world can be distinguished. The developing and even the developed countries around the world have been focusing the health sector for its progress and advancement. India's achievement in the field of health vary from state to state and from community to community. However, it always remained abysmally low and the burden of the disease, morbidity and mortality among the population especially the vulnerable rural population remained always high. Many of these illnesses, and deaths can be prevented by the extensive public health care services. However our state failed in providing the comprehensive health care services to enhance the health status of its citizens. To provide accessible, affordable and accountable quality health services and to treat the ailing health care system, Government of India launched a gigantic mission based programme 'National Rural Health Mission' (NRHM) on April 12, 2005. The policy has been implemented in the nooks and corners of rural habitations across the country. It was intended to bridge the existing gulf in rural health care services which got operationalised through architectural correction in the public health system by introducing new set of institutional arrangements. It's been nearly a decade since launching of this unique and prominent programme and it would be extremely important to analyse and evaluate the outcome of NRHM, to gauge whether the program is worthy of the epithets attached to it.

In this direction the present study aims to explore the role of state and community in affecting health of people in rural India through evaluation of the implementation and outcome of National Rural Health Mission (NRHM), in minority and majority concentration villages of district Aligarh, Uttar Pradesh. The study intends to provide the micro level depiction of the policy prescription and also attempts to comprehend the attitude of the beneficiaries' i.e. married Hindu and Muslim women in the age group of 18-34 of minority and majority concentrated villages towards health care services provided at village and block level under NRHM. The study would help the policy makers in understanding the transformation NHRM has brought in the health profile of the community. It would also help in comprehending the imparity in policy prescription and the existing health care services available in villages.

The study assumes that: (a) State would be unable to promote the health condition of people unless they positively respond to state initiatives, (b) Response of the people would be luke-warm if health apparatus of the State is weak or ineffective, and (c) the concept of health and the intervention of State and community for attaining healthy life and society are dynamic.

Objectives

This study has three fold objectives:

a. To investigate into NRHM's policy prescription about infrastructural facilities and existing realities.
b. To examine the availability of Infrastructural facilities and their operation in minority and majority concentration villages in order to find out the inclusion or exclusion of Minority in health care services.
c. To assess the outcome or impact of the programme in villages by collecting information from the respondents.

Research Questions

The fundamental questions taken under this study are:

A. What are the notable transformations in rural health care and delivery system due to NRHM?

B. How was NRHM executed and what are its achievements / feats?

C. Whether these achievements are distributed equally across religious groups?

Plan of Study

To explore the role of state and community in affecting the health status of the people, first chapter entitled **'State, Community and Health in India: A Review of Literature'** provides the review of literature pertaining to the concept of welfare state and health policies, the connection between health services provider (State) and health services receiver (community), and implementation and outcome of various health policies programmes, and schemes of health mainly in post independent India. An attempt is also made to present the inter connection between state, community and

health in a diachronic perspective. The chapter also briefly mentions policies, programmes, and schemes of health evolved through five year plans in the country until the end of 20th century with a special focus on rural domain where more than 70 percent population of the country reside.

The beginning of 21st century was described by scholars as a 'paradigm shift' in the developmental approach of the country wherein basic health received much attention of policy planners. One of the most ambitious rural health initiative was the launch of NRHM. The second chapter presents the vision and mission of NRHM starting with a brief discussion on the Millennium Development Goals (MDGs) and National Health Policy of 2002 as a background to the introduction of NRHM. The chapter also discusses its goals, components and adopted strategies for revitalizing public health care system in rural India.

Chapter III provides a bird's eye view about the demographic and health conditions of the sampled district and elaborates the logic of enquiry or the design of the study consisting of research methodology, research design, sampling plan, tools of data collection and analysis. An attempt is also made to present the variations and compare broad health indicators of the district, the state i.e. UP with National average in order to describe health status of the district are compared with that of the state and the state with the country. The Chapter also elaborates the logic of enquiry or the design of the study. In addition, tools of data collection and data analysis are explained in detail. Aims, the relevance, and the limitation of the study are also elaborated in this chapter.

Under NRHM, several architectural corrections in the institutional arrangements of rural public health system were attempted like installation of a new cadre i.e. ASHAs in every village, formation of Village Health and Sanitation Committee (VHSC) at village level and Rogi Kalyan Samiti (RKS) at *Panchayat* and block level for seeking strong community involvement in public health system. Strengthening the capacity and scaling of the existing health services at the community level in the rural areas (Sub-Centers, PHCs & CHC) was the highest priority.

In order to judge the actual and the factual position of these strengthened public health care institutions and their services in rural areas with respect to the policy prescription, a comparative account of certain public health standards is accomplished in chapter IV entitled **'Implementation of NRHM: Policy Prescription and Existing Realities'.** This chapter gives detailed account of the execution of NHRM and the existing realities at the ground level which is substantiated by the researcher's field inputs. It starts with brief discussion on rural health care system in rural areas. In this chapter the researcher attempted to present the major functions and activities of major components of NRHM i.e. Sub Centers, ANMs and VHSCs, PHCs, CHC. For assessing and comparing these health care delivery system as per the IPHS norm, 4 SCs out of a total of 30 SCs, 4 PHCs and the CHC of the block are selected. The chapter further moves to the major findings of the public health facilities available in rural areas as guided and prescribed by the IPHS norms. The concluding part of the chapter centered around the discussion on major bottlenecks explored by the researcher on various dimensions i.e. infrastructure, equipment and furniture, manpower, available services of NRHM at every stage of health care i.e. Sub-Centres, PHCs and CHC of the Jawan Block, Aligarh.

Indeed, one of the goals of NRHM is to promote maternal and child health. It is with this objective in mind, an attempt is made in Chapter V entitled **'NRHM and Maternal Health in Majority and Minority Communities'** which focuses on health condition of both majority and minority women in reproductive age group (18-34 years) with at least one live birth within five years preceding the survey for analysing the attitudes of women towards health care services, quality of services provided to them, their fertility behaviour and so on. The response of women is correlated with their living condition, education, age at marriage etc. Thus, the aim of this chapter is to analyse the impact of NRHM on women beneficiaries and to find out the deference between women of majority and minority communities. 198 households were selected on the basis of the availability of married women in the age group of 18-34 years. Out of which 132 (66.7%) households were of Hindus and remaining 66 (33.3%) were of Muslims. Interview schedule was formulated to get information from women respondents and not from the head of the households. Their responses were analysed, tabulated and presented under following broad headings- profile of respondents; their

living or household conditions, their fertility behavior, their maternal health status and their accessibility and attitude towards health care service providers.

Chapter - 1

State, Community and Health in India: A Review of Literature

CHAPTER 1

STATE, COMMUNITY AND HEALTH IN INDIA: A REVIEW OF LITERATURE

This is the study aiming to explore the role of state and community in affecting health of people in rural India. The focus of the study is to evaluate the implementation and outcome of National Rural Health Mission (NRHM), a mega scheme launched by GOI in 2005, in minority and majority concentration villages of district Aligarh, Uttar Pradesh. This introductory chapter is designed to review the literature pertaining to the concept of welfare state and health policies, the connection between health services provider (State) and health services receiver (community), and implementation and outcome of various health policies mainly in post independent India. The study assumes that (a) State would be unable to promote the health condition of people unless they positively respond to state initiatives, (b) Response of the people would be luke-warm if health apparatus of the State is weak or ineffective, and (c) the concept of health and the intervention of State and community for attaining healthy life and society are dynamic. Hence, the role of state in Health care services and the response of the community have visibly changed since independence. Thus, in this chapter an attempt is made to present the inter connection between state, community and health in a diachronic perspective.

State and Policies of Health

State is very often being defined as people living in a delimited territory having their government and sovereignty. The concept has been subjected to various explanation and interpretation. Different scholars have differently explained State and its objectives. Max Weber, a renowned German Sociologist defines State as a 'human community that (successfully) claims the monopoly of the legitimate use of physical force within a given territory'. (Haralambos & Holborn, 1995, p. 503)

On the basis of Weber's definition, the State may be conceptualize as consisting of various agencies of law and policy making and implementation as well as maintaining law & order inside the territory and protecting people of state from external threat or war.

There is no single type of state, in fact the forms of state vary from time to time and within a time from one society to another. Welfare state is one of the forms of state emerged during 18th century in England. This form of state is conceived as an agency having responsibility for providing basic amenities and essential services to people for living a dignified life.

According to Merriam-Webster dictionary, Welfare State is:

1. a social system based on the assumption by a political state of primary responsibility for the individual and social welfare of its citizens
2. a nation or state characterized by the operation of the welfare state system

Orloff (1993) defined 'welfare state' as 'interventions by the state in civil society to alter social and market forces'. He too much emphasized on the health dimension and proclaimed that the welfare state matters because as a complex set of institutionalized citizenship rights, it shapes the causes and consequences of health, illness, and healing.

India has adopted a modern secular constitution after attaining independence from colonial rule on 15th August 1947. The constitution is based on the concept of citizenship, equality, and social justice. The constitution conceptualizes India as a "welfare state". There are number of articles in the constitution which promise to provide free education, health care services and other basic amenities and essential services.

Many Scholars have attempted to classify welfare state into different types on the basis of policies of health care services. One such classification was suggested by Stevens (2001) naming health care systems as the **Bismarck[1], Semashko[2], and Beveridge[3],** health care systems after the key historical personalities that created

[1] **Otto Von Bismarck** (1815-1898), was a conservative Prussian responsible for transforming a collection of small German states into the German empire, and was its first Chancellor Although an arch-conservative, Bismarck introduced progressive reforms—including universal male suffrage and the establishment of the first welfare state — in order to achieve his goals.

[2] **Nikolai Aleksandrovich Semashko** (1874-1949) was a Russian statesman who became People's Commissar of Public Health in 1918 and served in that role until 1930; he was one of the organizers of the health system in the Soviet Union.

[3] **William Beveridge**(1879-1963) was a British economist and social reformer, closely associated with the development of the welfare state. He is best known for his 1942 report Social Insurance and Allied Services (known as the Beveridge Report) which served as the basis for the post-World War II welfare state put in place by the Labour government elected in 1945.

them. These systems differ by types of organization and by the role of three principal actors i.e. the medical profession, the state, and the payers.

The Bismarck model represents systems that are financed through insurance fee collected from the insured. Under this model, the role of the state is quite limited to setting and maintaining a system of contracts among patients, providers, and insurers. The provision of service delivery is left to the profession of medicine. Countries belonging to this type include Canada, France, Germany, Japan, and the United States. Under the Semashko model, citizens have free universal access to health care that is controlled directly by the state. The state owns health care facilities, finances them through the state budget, and allocates services throughout the country. Nations included in this type are Bulgaria, Hungary, Poland, and Russia etc. Finally, the Beveridge model provides free access to health care through publicly owned hospitals. However, complete state control of all health care facilities is absent, the medical profession has more autonomy, and physicians as well as patients and insurers are allowed to opt out of the system. Other than India, countries belonging to this system are Italy, New Zealand, Spain, Sweden, and the United Kingdom – the first nation to establish a national health care system in 1919 (Lassey, Lassey, & Jinks, 1997; Stevens, 2001).

Esping-Andersen (1990) gave the most widely used categorizations of welfare state, dividing nations into **liberal, conservative, and social-democratic welfare states.** This typology is largely based on the generosity of the welfare state – specifically, the extent to which the state "decommodifies" labour by making it possible for people to maintain a standard of living outside the market – but health care spending does not receive similar attention as various benefits linked to the labour market (e.g., unemployment benefits). The liberal welfare states (e.g., Canada, the United Kingdom, and the United States) are characterized by a minimum state intervention in labour market processes and the state does little to interfere with inequalities created in the market. The conservative welfare states (e.g., Germany, France, and Italy) prefer familial and charity solutions to different social problems with the state acting as a safety net once those other types of solutions can not able to solve the problem. In addition, benefits are frequently tied to the labour market, rather than representing a universal right. Finally, the social-democratic welfare states (e.g., Denmark, Iceland, and Sweden) are most active in correcting inequalities created by

the market. Benefits are universal and tied to citizenship, rather than employment status. However, Espin-Anderson admitted that "there is no single pure case". He also admitted that the welfare states have changed and developed over the years.

Current scholarship moves toward health in identifying population aging and declines in fertility as aspects of the "crisis" of the welfare state, but these are typically conceptualized as placing additional fiscal burdens on the welfare state, rather than as health inequalities or health policies that are constitutive of what it means to be a welfare state (Brady, Backfield, & Seeleib-Kaiser, 2005; Castel, 2004; Huber & Stephens, 2001)

Goodwin (1997) also attempted to link welfare-state classification and health care systems in his conceptualization of the three worlds of mental health policy. Likewise Esping-Andersen, he divides nations into the liberal regime, conservative regime, and social-democratic regime. Within the liberal regime, mental health policy is a reflection of the market and the main goal of mental health policy is to restore people in order to be able to participate in the market. Conversely, mental health policy reflects reaction and reliance on other types of organizations in the conservative regime. Finally, in the social-democratic welfare regime, mental health policy illustrates commitment to social rights. This work provides an example of a consolidation between welfare-state theories and a domain of health care services.

Concept of Health

World Health Organization (WHO) defines health as "a state of complete physical, mental and social well-being and not merely the absence of disease and infirmity" *in 1946. After a gap of fourteen years two words, i.e. 'dynamic' and* 'spiritual' were added in the definition. Now the WHO definition of health is "a dynamic state of complete physical, mental, spiritual and social well-being and not merely the absence of disease and infirmity" (Park & Park, 2011).

Although this definition of health is used by many countries of the world as a yard stick for assessing the condition of health and formulating health policies, but scholars have differently interpreted the definition. Many of the scholars, infact, criticize the definition as mere utopia. It is too generalize to be quantified or translated into reality. It is unrealistic and inflexible. The word 'complete' in the definition makes it unlikely for any individual to remain healthy for reasonable period of time.

Further, the definition of the organization implied that all persons who have not succeeded in attaining 'complete' health would be assumed to be unhealthy.

Indeed, health is a relative and dynamic concept. The notion of health or being healthy differs from society to society and changes from time to time. Anthony Giddens said that "health & illness are terms that are culturally & socially defined. Cultures differ in what they consider to be healthy and normal. All cultures have known concepts of physical health and illness" (Giddens, 2009, p. 391).

The concept of health and means of curing illness were different in simpler, segmentary, and pre-industrial societies from modern industrial societies in which a bio medical perspective of health and illness emerged and practiced.

Biomedical concept depends totally on standard measures of health which include mortality, life expectancy, birth rate, growth rate, the incidence of causes of death, morbidity, and the frequency of disease etc. On the basis of the output of these standard measures, the health of a group/community/population may be revealed. It does not take into account the role of social factors or individual subjectivity in conceptualizing the health on any population. This perspective on health is nearer to **naturalist concept of health** which does not take into account the role of values and social factors in affecting the condition of health. Health is determined, according to naturalist, by the medical professionals on the basis of proper functioning of organisms and their parts.

On the contrary, there is **normative and subjective concept of health**. Those who take normative view of health argued that the concept of health is value-laden and the medicine as a discipline itself is littered with values, then how medical professionals can escape incorporating values while conceptualizing health. They also claimed that the scope of the concept of health is ultimately confined to diagnosis and treatment of patients within a cultural/social context. Talcott Parsons, being a supporter of normativist position, also conceptualize health from a social perspective as "the state of optimum capacity of an individual for the effective performance of the roles and tasks for which he has been socialized. It is thus defined with reference to the individual's participation in the social system. It is also defined as relative to his "status" in the society, i.e. to differentiated type of role and corresponding task

structure, e.g., by sex or age, and by level of education which he has attained and the like."

With the emergence of modern industrial state and the development in the field of health, a balanced approach i.e. taken into consideration both objective and subjective factors affecting health has emerged. This is expressed through a concept called public health. The **Public Health concept** was shaped during the state attempt to eradicate pathologies from the population or social body. This model emphasizes on community involvement as an important dimension in conceptualization of health. Healthy communities have health institutions that are accountable, involves communities right from planning stages to implementation, assessing and evaluating the quality of services provided to the community thus while doing so, the community facilitate in accommodating diverse cultural perspectives on health and the services required. Community health includes services delivery like treatment of general ailments, immunizations of expected mother and babies and standard performance measures. It also includes the capacity of the community's health institutions to respond to potential health problems. Thus, community health institutions understand cultural and social effects on health, incorporate community perspectives on needs and desired services, and assess perceptions of the quality of services.

Yet another concept of health is given by **critical anthropologist** who emphasized upon availability of health care services and access of people to it. Political decisions, environmental conditions, and community perceptions are important factors in affecting health condition of people. One of the Anthropologist, Williamson (1976), health condition is affected by the political decisions regarding *resources for immunizations, care and nutrition, and exposure to environmental* conditions and socially produced risks such as poverty and crime. The recognition of health effects in social, economic, and environmental factors force attention to be paid on the interactions of biological and social conditions. Multiple environmental interactions, including a range of economic, social, political, and ideological influences, *mold the interactions at the micro level of interpersonal dynamics of* community and family that consequently shape an individual person's physiological conditions".

In a nutshell, health is a comprehensive, relative and dynamic concept, affected by both objective and subjective factors. Objectively it is determined by

biological makeup of people, environmental condition and political disposition. While subjectively it is affected by individual's perception, societal values and institutions, and community action.

The Concept of Community

The word community is widely used in the context of health. It is used in policy of public health as shown in the preceding paragraphs. In almost all medical colleges on India, there is a department called the department of Community Health or Community Medicine which focuses on studying the health characteristics and the health status of a defined group of people, or community, and the actions and conditions that protect and improve the health of the community. The initiatives taken by the department for protecting and improving community health can be organized into three areas: health promotion, health protection, and health services.

However, in this study the word community is used for a village. Due to two reasons (a) It is a social unit of living and (b) It is a unit of political action called *panchayats* through which all developmental policies are implemented. As a social unit, Indian village has been referred by sociologist as a community. For villages of India were characterized by distinctive features of cooperative life, social organizations, cultural heritage, and so on. Many scholars were so fascinated by the distinctive characteristic of Indian villages as they referred it 'Little Republic' (Metcafe). Being a little republic or an isolated community has been subject of debate and discussion among scholars but what is being accepted by all scholars is the fact that Indian village has a sense of social unity and distinctive socio-cultural life. This is expressed by the practice among many Indians that they add name of their villages in their name. It is because of cooperative and collective sentiments of villagers that the first program of Rural Development preferred to name it as 'Community Development Projects'

The philosophy and the objectives of the Community Development Projects (CDP) assumes that "the individuals, sections, group and strata forming the Village Community have a large number of common interests, sufficiently strong to bind them together. (ii) the interests of the various groups and classes within the village are both sufficiently like and common to create general enthusiasm as well as a feeling of

development for all, (iii) the interests of the different sections of the community are not irreconcilably conflicting (Desai A. R., 1978, p. 615).

Many changes have taken place in the traditional conception and sentiments of social unity and cooperative life in villages of India today. And one may notice dissentions, conflict and violence among villagers. However, village is recognized and act as a social and political unit through *Panchayati Raj* system in India. Every village has a democratically elected body called *Panchayat* through which aspirations of villagers are articulated, policies are formulated and implemented. Every developmental policy of the government is implemented through *panchayats*. Hence Village as a *Panchayat* or a political unit is crucial in the conception and development of Health.

Health Care System in India

India is an oldest civilization and highly diverse society. So, it has multiple system of health care, evolved over a period of time and differ from time to time and within a time from one region to another. However, the system of Ayurveda, Siddha, Yoga and Unani were widely practiced everywhere in India before and after the establishment of colonial rule. The modern system of medicine i.e. allopathic and homeopathic were introduced during colonial period. Although allopathic system of medicine has been accepted as the main system of health care, the alternative or traditional system of medicine has become very popular in recent times. Apart from the established system of medicine, either traditional or modern, a large number of people, mainly in villages and remote areas still practice spiritual healing system. Their notion of health and illness is shaped by their beliefs, social customs and practices.

Ayurveda System, a truly Indian origin, is an indigenous medical system developed in between 5000 to 2500 BC and its concept can be traced in Atharveda. (Subhose, Srinivas, & Narayan, 2005). The practitioners of Ayurvedic medicine system were called as Vaidyas and they heal people by the help of certain plants as amulets, apart from their use either in form of powder or fumigant as medicines. Ayurveda always emphasized individual as a whole and total entity i.e. individual as a whole is to be examined in detail in respect of his disease and not merely his disease. Thus, Ayurveda recognises the importance of cultural and social factors in relation to

outbreak of any disease (Subbarayappa, 2001, p. 140). Knowledge of Ayurveda was transmitted from generation to generation among rural and lower strata of the society. Kaul (1980) quoted Edward Iver words who visited India around 1755 that "like the other caste, the son of a doctor is a doctor and so he will continue to be from generation to generation". However, Students from other countries also came to India for studying Ayurveda (Prataparedy, 1950).

Another Indigenous system of medicine is Siddha Medicine System, one of the oldest medicine system in India, whose inception may be traced around fourth century AD. The system, with the use of processed mercury, sulphur, arsenic substances, metals, and minerals including gems mercury, and its compounds as well as some processed minerals help individual to attain immortality or 'deathlessness' of human body in contradiction to Ayurveda and Unani which at best attempt to rejuvenate and prolong human life, accepting the inevitable death of the body.(pp-142). The Siddha system was not only practiced by Hindus rather evidences proved that Muslim practitioners were also observed to use Sanskrit and Telugu Mantras (Rao B. M., 1992, p. 137).

Another Indigenous health system, Yoga, was born in India several thousand years ago. According to Sri Aurobindo, one of the renowned nationalist cum philosopher, yoga means "a methodological effort towards self-perfection by the development of potentialities latent in the individual." According to this system, the reason for occurrence of diseases, may be mental, psychological and physical, lies in mind through wrong way of thinking, living and eating. The basic approach of Yoga is to correct the life style by cultivating a rational positive and spiritual attitude towards all life situations without the help of any drug. However, due to globalization, yoga has exponentially grown in the west and infused with other western methods and changed its originality.

Apart from these two systems, there are large numbers of traditional healers in the folklore stream who have not been organized under any category. Their existence, though denounced as unscientific, cannot be denied and ignored in Indian health system. An interesting episode of successful folklore[4] practice of treatment, when

[4] It is being practiced in the country since the Atharvavedic period. It has its own concepts about causation of disease: wrath of goals, evil spirits, magic with craft etc. It has its own diagnostic tools and techniques which lean heavily on deviation from the normality. The treatment is based on – removal of the causative factor through the propitiation of goods, exorcism, counter magic use of charms and amulets and some herbal preparation.

other systems failed, may be located in case of Jahan Ara, daughter of Shah Jahan, who sustained serious burn injuries on 26th March, 1644. (Arnold , 1993)

The other systems of medicines that are not of Indian origin are Unani, Homeopathy and Allopathic or Western Medical System which may be categorized as exogenous system of health care.

Around 12th Century AD, with the coming of Muslim rule in India, a new system of medicine known as Unani made its debut in India (Jesani A. , 1996, p. 12). With the time, under the patronage of Muslim rulers especially of Mughal dynasty and other independent kingdoms, Unani began to flourish, and attained high status across the Indian societies (Aziz, 1961). Even Vaidya's, practitioners of Ayurveda, were not out casted this system as their opponent and in addition, Muslim rulers also patronized both system of medicine and their practitioners (Subbarayappa, 2001, p. 143). There were many notable Hakims especially during Mughal period, who left behind their medical treaties which added a veneer of excellence to the Indian medical literature.

Homeopathy, being a new member of exogenous medical system family, have over the years become a part of the recognized system of Medicine in India. This holistic system was conceptualized by a German Scientist Dr. Samuel Hahnemann in 1796. Homoeopathy came to India as early as 1810 when a French traveler, Dr. John Martin Honigberger who learnt Homoeopathy from Dr. Samuel Hahnemann visited India and treated patients with Homoeopathy. In his second visit in the year 1839, he treated the then ruler of Punjab, Maharaja Ranjit Singh. Maharaja was so happy with results and he encouraged him to continue the Homoeopathic treatment in India. Today, it has the second largest number of practitioners after Ayurveda in India.

The history of western medicine in India dates back to 1600, when the first medical officers arrived in India along with the British East India Company's first fleet as ship's surgeons. In 1757, the East India Company established its rule in India, which led to the development of civil and military services. A medical department was established in Bengal as far back as 1764, for rendering medical services to the troops and servants of the Company (Mushtaq, 2009).

Health Policies during Colonial Period

The beginning of 18th Century witnessed the emergence and establishment of colonial rule in India. Many trading companies of western countries were allowed to do business in the country and they came with their officials, staffs and system of health care and medicine. One of such companies was East India Company of Britain, which slowly and gradually succeeded in establishing its rule over India which lasted for about 200 years. It was during this period that Allopathic medicine and system of health care were introduced. This system of medicine and health care was primarily intended for officials and staff of the company. Scholars have different opinions about the Public Health policies of Colonial State.

There are scholars who view that Health Care of Military troops and their enclave was the primary factor for shaping the health policies of Colonial State.

While borrowing the ideas of Michael Foucault, Arnold examined 'public health' measures in the light of colonial power, as a means by which the state aimed to know and control its subject (Arnold , 1993). The view is supported by Kumar who argued that Western Medicine functioned as an instrument of control in several ways, which would swing between coercion and persuasion (Kumar D. , 1997). Similarly, P.Dutta says that "the notion of public health emerged from a reformist mode of governance which was part and parcel of British imperialism (Datta, 2009). On the contrary, Amrith (2009) acclaimed the colonial rule for the advent of modern Western medicine in India. Institutions of public health viz., hospitals, health centres, and medical research laboratories pharmaceutical production were amongst the new colonial institutions that appeared in India along with railways, telegraph, and new forms of land tenure and different laws (Amrith, 2009). Some applauded them for bringing a new medical system other than the present trinity which was called as tropical medicine at the end of 18th century.

One may not deny the contribution of colonial state and Christian Missionaries in introducing modern system of medicine and health care in India. However, colonial state could not formulate any effective policy of public health during 18th and 19th century, as a result, health issues of a large number of people remained unaddressed. The event of the Revolt of 1857 exposed many dimensions in front of the British Government. Concern about threats to the health and hygiene condition of the Army

(Amrith, 2009), the Government appointed the Royal Commission on the Sanitary State of the India in 1859. (Holmes, 2005).

The report submitted by the Royal Commission in 1863 was considered as the first document of 'public health policy' in British India. The commission reported that an average of 69 out of every 1000 British army in India died annually because of diseases. The findings caused an uproar in Britain which led to establishment of Sanitary Commissions for monitoring the conditions in and around military enclaves. Thereafter, various Commissions and Boards came into existence which suggested various measures which were adopted by the British Government for fostering a planned Health Policy in India (Harrison, 1994, p. 9). Initially confined to the Military Headquarters and European settlements, the policies slowly and gradually percolated in the clusters of local population also. Another milestone was the Montgomery-Chelmsford Constitutional Reforms of 1919 which led to the transfer of public health, sanitation, and vital statistics to the provinces. This was considered as the first step in the decentralization of health system and its administration in India. Municipality and Local Board Act 1920-21 and the Government of India Act, 1935 gave further autonomy to the provincial governments by categorized different responsibilities in three parts: federal, federal-cum-provincial, and provincial. In 1937, the Central Advisory Board of Health was set up with the Public Health Commissioner as secretary to coordinate the public health activities in the country. In 1939, the Madras Public Health Act was passed, which was the first of its kind in India.

Just before independence in October, 1943 the colonial state appointed the Health Survey and Development committee under the chairmanship of Sir Joseph Bhore which submitted its report in 1946. The Committee was assigned the task of reviewing health status and infrastructure in the country as well as recommended for future strategies. As per the findings of the committee, the health status of the people was as follows

The general death rate in British India was 22.4, Infant Mortality Rate (IMR) was 162 per 1000 live birth constituting nearly half of the total deaths and about one half took place within the first year of life and the expectation of life at birth was 26.91for males and 26.56 for females. In 1938, the Maternal Mortality Rate (MMR) for the country was near to 20 per 1000 live births. The percentage of deaths due to

epidemic diseases was found to be Cholera 2.4, Smallpox 1.1, Plague 0.5, Fevers 58.4, Dysentery 4.2, Respiratory disease 7.6, and others 25.8.

Table 1.1: Average Annual Deaths in British India (1932-1941) excluding Burma

Cholera	Small-pox	Plague	Fevers	Dysentery & Diarrhoea	Respiratory Diseases	Other Causes	Total
144924 (2.4%)	69474 (1.1%)	30932 (0.5%)	3622869 (58.4%)	261924 (4.2%)	471802 (7.6%)	1599490 (25.8%)	6201434 (100%)

Source: Bhore Committee Report, page no 10

The committee also found that the curative and preventive health services were totally inadequate. There were only 1 doctor for 6300, 1 nurse for 43000, 1 Health Visitor for 40000\ and 1 Midwife for 60000 populations. One fourth of the total number of doctors was in government service and rest all found to be private practitioners in urban areas. There were only 70-80 lady doctors engaged purely in maternity and child welfare work.

The major recommendations of the committee were

- No individual should fail to secure adequate medical care because of inability to pay for it.
- Special emphasis should be given on integrated development of preventive and promotive action for the vast rural population.
- Health services should be placed as close to the people as possible to ensure the maximum benefit to the communities to be served.
- Securing the active cooperation and support of the people through Health Committees of every village as well as opportunities for active participation in the development of the health programme.

However, the report failed to address and appreciate the value of indigenous medical systems in British India. (Anita, Deodhar, & Mistry, 2004, pp. 5-6)

Five years before the setting of Bhore Committee, Indian National Congress constituted National Planning Committee under the chairmanship of Pandit Jawahar Lal Nehru in 1938. One of its subcommittee was on National Health under the chairmanship of Col. S.S. Sokhey, to review health situation in the country and formulate strategies for future development. On the basis of the report of this committee, the NPC resolved that

(a) India should adopt a form of health organization, in which both curative and preventive functions are suitably integrated, and administered through one agency.

(b) Such an integrated system of health organization can be worked only under state control. It is, therefore recommended that the preservation and maintenance of the health of the people should be the responsibility of the state.

(c) There should be ultimately one qualified medical man or woman for every 1000 population, and one bed for every 600 of population. Within the next ten years the objective aimed at should be one medical man or woman for every 3000 of population, and a bed for every 1500 of population. This should include adequate provision for maternity cases.

(d) The medical and health organization should be so devised and worked as to emphasize the social implications of this service. With this object in view the organization should be made a free public service, manned by whole-time workers trained in the scientific method.

(e) Adequate steps be taken to make India self-sufficient as regards the production and supply of drugs, scientific & surgical instruments and equipment and other medical supplies. (National Planning Committee, 1948, pp. 224-226; Duggal, Health Planning in India, 2010, p. 30).

It is appropriate here to sight the figures of Indian census for demonstrating health condition of people from the beginning of 20th century to just after independence.

Table 1.2: Major Demographic and Health Indicators in British India (1901-1951)

Year	Population (In million)	Life Expectancy at birth			Crude Birth Rate	Crude Death Rate	Natural Growth Rate	Sex Ratio
		Female	Male	Combined				
1901-11	252.1	23.3	22.6	22.9	49.2	42.6	6.6	964
1911-21	251.3	20.9	19.4	20.1	48.1	47.2	0.9	955
1921-31	279	26.6	26.9	26.8	46.4	36.3	10.1	950
1931-41	318.7	31.4	32.1	31.8	45.2	31.2	14	945
1941-51	361.1	31.7	32.4	32.1	39.9	27.4	12.5	946

Source: P Datta's 'Social History of Health and Medicine in Colonial India, p. 30.

Findings and recommendations of Bhore Committee and NCP served as guidelines for health policies for the formulation of health policies just immediately after independence.

Health Policies and Programmes in Free India

India embarks on to frame the Constitution for governance and plans for development immediately after attaining Independence from colonial rule on 15th August 1947. Issues of health have been underscored both in the Constitution and Five Year Plans of Development. Many laws, policies and programmes were formulated and implemented to improve the health and health care system in the country. However, policies and programmes of the government did not remain static. They change from time to time. Various programmes and schemes of health were formulated and executed through Five Year plans, executive orders, legislations and developmental projects like community development projects and *Panchayati Raj* System. The first National policy of Health was formulated in 1982 which was updated in 2002. This section is devoted to review policies, programmes and schemes of health until the end of 20th century in the country.

India adopted a modern secular constitution based on the concept of citizenship, equality and social justice. The constitution envisaged India as a 'welfare state' whereby the state is enjoined to mobilise resources for providing basic services basic facilities of health, education, social services etc. Although health is not been recognised as 'Fundamental Right' nor it is included in the 'Central List' (A list consisted of items under the responsibility of Union government) of the constitution, many articles of the constitution mainly in Directive Principles of State Policy enjoin State to mobilise resources for the promotion and advancement of facilities of health care system in India for example Articles 14 to 16 embody the principle of equality and opportunity which may be understood in respect of equal access to health services and opportunity for all citizens in matters relating to employment to any state-run health institutions. There are several other articles DPSP like Article 38, 41, 42, and 47 having indirect implications on health of its citizen.

Being a Welfare State, India adopted planned approach for development in the country. The government of India framed its **First Five Year Plan** in 1951. The Plan allocated ₹ 65.2 crores (3.3 per cent of total plan outlay (Government of India, 1951)

and formulated many programmes and scheimes concerning with improving health condition and preventing illness and spread of diseases. Some of the notable programmes and schemes in this plan were as follows

- In 1952, India launched the world's first and the largest Family Planning program.
- Focusing on rural sector development, Government of India launched first development programme i.e. Community Development Programme (CDP) in 1952 at block level. It was a multipurpose programming aiming at improvement of agriculture, animal husbandry, means of communication, education including adult education, health and sanitation. However, CDP failed to achieve its mission and was a dead horse even before the launch of Second Five Year Plan. The government's own evaluation reports confessed this failure (Duggal, Evolution of Health Policy in India, 2011).
- Implementation of National Malaria Eradication Programme (NMEP) in 1953 for managing epidemics. Spraying of DDT was one of the major activities of the programme.

Though many priorities were made during this period, health status remained abysmally low due to lack of medical facilities and the limitation of health services.

The **Second Five Year Plan** (1956-1961), with an allocation of ₹ 140.8 crores constituting 3.0 % of total outlay aimed at expanding existing health services present in rural areas, to bring the health services within the reach of all the people and to promote a progressive improvement in the level of national health. At the end of plan period, deaths due to malaria, cholera, smallpox etc. were halved or sharply reduced and the overall morbidity and mortality rates had declined. The death rate had fallen to 21.6% for the period 1956-61. The expectation of life at birth had risen to 42 years.

In 1959, Government of India appointed a 'Health Survey and Planning Committee' headed by Dr. A.L. Mudaliar, to assess the performance in health sector since the submission of Bhore Committee report. This committee suggested for strengthening of PHCs before establishing new ones. Strengthening of sub divisional and district hospitals was also advised.

The **Third Five Year Plan** (1961-1966), guided by the Mudaliar recommendations, discussed the problems affecting the provision of Primary Health

Centers (PHCs), and gave attention to the shortage of health personnel, delays in the construction of PHCs, buildings and staff quarters and inadequate training facilities for the different categories of staff required in the rural areas (Government of India, 1961, p. 657). The Third Plan tried to ensure a certain minimum of physical well-being and to create conditions favourable for greater efficiency and productivity of health care institutions. During this plan, health received 2.62% of the total outlay, lesser than what it received during the second plan period. While the 3rd plan did give serious consideration to the need for more auxiliary personnel but only lip service was paid. Family Planning Programme, initiated in 1951, was also changed due to increased birth rate and was made an independent department in the Ministry of Health.

In the concluding year of the plan, the Jungalwalla Committee on Integration of Health Services was set up in 1964 under the aegis of Dr. N. Jungalwalla for finding the problems related to integration of health services, abolition of private practice by government doctors and the detrimental service conditions of doctors.

After 3 year plan holiday, The **Fourth Five Year Plan** began in 1969 and followed the same line as the Third plan and was very poorly articulated. The total outlay of the Plan was ₹ 433.53 crores (2.6 % of total outlay) was allotted for health. No innovative programme was implemented during this period.

An outlay of ₹ 681.66 crores was allocated to health sector in **Fifth Five Year Plan** (1974-79). While acknowledging poor infrastructural services of health in rural India, certain measures were devised to improve the health condition of the villagers during this plan period. A Committee headed by Dr. Karatar Singh was appointed to recommend measures for Multipurpose Health Workers (MPWs) in rural India. The committee recommended that each Public Health Center (PHC) to be established for every 50,000 population. Every PHC to be divided into 16 Sub-Centers each for a population of 3000 – 3500. Each SC to be staffed by a team of one male and one female health worker. The work of 3-4 health workers to be supervised by one Health Assistant. In addition there were certain measures taken for improving and promoting health care services in rural India

- Increasing the accessibility of health services to rural areas through an integrated package approach to the rural areas i.e. the Minimum Needs Programme (MNP).

- Orientation and training of community health workers, multipurpose workers and linking medical colleges to rural health was initiated
- Rural Health Scheme was launched on 2nd October 1977 for seeking community participation. Under this scheme, the Community Health Volunteer called as Village Health Guide (VHG), a person from the village, mostly women, will act as a link between the community and the Government Health System.

However, in the middle of the Fifth Plan, a state of National Emergency was proclaimed and during this period (1975-77), population control activities were stepped up with compulsion, force and violence.

The **Sixth Five year plan** was framed under the back ground of an international conference organized by World Health Organisation (WHO) in Alma-Ata on Primary Health Care Services. The period of this plan witnessed the formulation of first National Policy of Health, 1983. Like the preceding plan, the Sixth plan also highlighted the poor health infrastructural facilities in rural areas and villager's deprivation of specialized medical services in urban areas. However, percentage of total plan outlay to health sector was reduced to 1.8 in comparison to earlier plans (₹ 1821.05 crore). Despite meagre outlay to health sector, a very important scheme called National Leprosy Eradication Program was introduced at fag end of the plan in 1983. (Rural and National health policy 1983). 'Health for All by the end of the 20th century was a motto of **Seventh Five year Plan (1985-1990)** with an outlay of ₹ 3392.89 crores (1.6%) to health sector. This Plan witnessed introduction of significant schemes for the improvement of health condition across the country. Some of the major schemes were as follows:

- Universal Immunization Programme (1985)
- National AIDS Control Programme (1987)
- National Diabetes Control Programme (1987)
- Respiratory Infection Programme (1990)
- Before the end of the 20th Century, Eight and Ninth Plans were formulated. Formulation and implementation of both these plans were delayed by two years instead of 1990, the Eight Plan was started in 1992. Similarly the Ninth Plan was started in 1999 Instead of 1997 these plans did not witness any

radical transformation in the strategy of improving health condition and infrastructure. However, certain schemes were introduced during Eight Plan period for the health of Mother and Child such as Child Survival and Safe Motherhood Program (CSSM) in 1992 renamed as Reproductive and Child health (RCH) in 1994, Pulse Polio Programme in 1995, National Filaria Control Programme (1997). Both RCH as well as Pulse Polio Programme were introduced with the aid and probably influence and persuasion of developed countries and international organisations of health.

The Ninth Five Year Plan witness the formulation of National Population Policy 2000, and revision of National Health Policy in 2002. Both these policies have many provisions for health of villagers.

Table 1.3: Pattern of Investment on Health across Five Year Plans

Plan Period	Total Plan Investment (all heads) (in crore)	Plan Investment on Health (in crore)	Per cent of Total Outlay
First Plan (1951-56)	1960	65.2	3.3
Second Plan (1956-61)	4672	140.8	3.0
Third Plan (1961-66)	8576.5	225.9	2.6
Annual Plans (1966-69)	6625.4	140.2	2.1
Fourth Plan (1969-74)	1577.8	335.5	2.1
Fifth Plan (1974-79)	39426.2	760.8	1.9
Annual Plan (1966-69)	6625.4	140.2	2.1
Sixth Plan (1980-85)	109291.7	2025.2	1.8
Seventh Plan (1985-90)	218729.6	3688.6	1.6
Annual Plan (1991-92)	65855.8	1042.2	1.6
Eight Plan (1992-97)	434100	7494.2	1.7
Ninth Plan (1997-02)	859200	19818.4	2.31

Source: *Tabulated from different Five Year Plan documents*

An Evaluation

In preceding paragraphs we have briefly mentioned policies, programmes, and schemes of health evolved through five year plans in the country until the end of 20th century. It is evident from the facts that Government of India has taken various measures for improving the health condition and health infrastructure facilities in the countries, mainly in villages, where more than 70 percent population of the country reside. Villages of India have been excluded from development during the colonial period and consequently were suffering of many hardship and disease.

Moreover villages of the country were not similar to one another in resources and cultural heritage. They differed from region to region. Providing health care services to villagers and improving their health condition was a highly difficult task for a newly independent country having all kind of financial and organizational constraints. Despite enumerable hardships, the planners of the country attempted to promote advancement of villagers in every sphere of public life including health. Right from the First Five year plan till the end of the 20th Century (Ninth Five Year Plan) many steps were taken which we have noted earlier. However, it appears proper here to repeat some of the programmes and schemes of health which have directly concerned with the health of rural people. CDP was all inclusive which aim to arouse the community (Village) sentiments for participation in developmental projects. CDP included many schemes and programs which were directly linked with the health of villagers. In order to take democracy at grass root level and politically empower villagers, the Government of India introduced Panchayati Raj System in 1959 which further empowered 73rd Constitutional Amendment in 1992. *Panchayats* were assigned the task of framing and implementation of the policies of development including policies of health. Both CDP and Panchayati Raj, with all their short comings prove to be a catalyst for making villagers aware about their rights including right of health and responsibilities of government. Indeed, both of these programmes heralded a new era in empowerment of villagers.

Programmes and schemes such as Malaria Eradication, Universal Immunisation, Polio Eradication, TB Control programme were few of the significant which had direct implication for the health of the villagers. For example, malaria, cholera and many epidemic diseases were responsible for the mortality of a large number of villagers in colonial India. Prevention and cure of these diseases were

important for the health of villagers. Another important problem, not only in villages but also in cities was the high fertility rate, for which family Planning Programme or Family Welfare or Population policy of India was an important steps to control the exploding population of the country through spreading awareness providing health care facilities and financial incentives and so on. Many Committees were constituted to review the health condition of villagers and availability of health care services to them. On the basis of the recommendations of these committees, an elaborate system of health care in villages was developed which began from Village level health workers through Sub-Centers, PHCs and CHCs. A sizable number of health workers trained and semi trained was created in villages. At least for Reproductive and Child Health Care system. Eradication of polio was a countrywide program with the collaboration of UNICEF, proved harbinger in making people aware about health issues and health rights. As a result, the significant improvement has taken place in the country on various health indicators if we compare data of Census 2001 with that of Census 1951.

In the next chapter we will be discussing the new chapter introduced in rural health in 21st Century i.e. National Rural health Mission (NRHM).

Chapter - 2

National Rural Health Mission: Goals and Strategies

CHAPTER 2

NATIONAL RURAL HEALTH MISSION: GOALS AND STRATEGIES

National Rural Health Mission (NRHM) as a holistic, democratic, mission mode state intervention for improving health status of villagers was introduced in 2005. This was not an isolated or exceptional programme to create necessary facilities and to provide essential services for human development at grass root level. Prior to the introduction of NRHM, Government of India launched a massive countrywide programme for 'universalization' of elementary education called Sarv Sikhsha Abhiyaan (SSA) in 2001. Both of these mega schemes of the government intended to make India, mainly rural India, a healthy and literate society. Indeed, social and human development was realized to be like oxygen for globalization, process of which began from the last decade of 20th century and accelerated from the beginning of 21st century in India. The beginning of 21st century was described by scholars as a 'paradigm shift' in the developmental approach of the country wherein basic health and education received much attention of policy planners. It happened due to multiple factors such as the good economic performance in the country, craving to carve out a dignified place of the country in growing global economy and knowledge society, global pressure for social and human development and so on. Hence, the introduction of NRHM should be seen in the wider perspective of globalization and the necessity of social and human development for the success in global economy and society. This chapter explains vision and mission of NRHM. However, it starts with brief discussion on the Millennium Development Goals (MDGs) and National Health Policy of 2002 as a background to the introduction of NRHM.

Millennium Development Goals

At the end of the century, the international community recognised the lack of global goals and concerted efforts to achieve a desired status of universal health across the geographical boundaries (Wagstaff, Claeson, Hecht, Gottret, & Fang, 2006).At the Millennium Summit held on 6th – 8th September 2000 at the United Nations (New York), 189 countries including India reaffirmed their commitment to working towards a world in which sustaining development and eliminating poverty

would have the highest priority. After one year in September 2001, road map towards the implementation of UN Millennium Declaration was carved out which was known as Millennium Development Goals (MDGs). A total of eight goals with 18 targets and 48 indicators to be accomplished by 2015 were adopted by a consensus of experts from different countries. These included extreme poverty, education, health, gender equality, and the environment. All goals are interlinked, and efforts to achieve one goal will directly effect on others. Three of the eight goals of Millennium Development Program with 18 indicators focussed on related with health. These goals are as follows.

1. To reduce child mortality;
2. To improve maternal health and
3. To combat HIV/AIDS, malaria, and other diseases;

The other five goals which dealt with eradication of poverty and hunger, universalization of primary education, gender equality and empowerment of women, environmental sustainability and globalization of MDGs are also closely linked with health for example, the goals on education and gender is considered important in promoting gender equality and good health among children.

National Health Policy 2002

Two years after millennium summit, India updated its National Health Policy of 1983 which is referred as National Health Policy (NHP) 2002. The policy is described as forerunner of NRHM.

The NHP 2002 document recognized the fruitful results of NHP 1983, but also acknowledged the disparities, inequity and large gap in health facilities between urban and rural areas, shortage and malfunctioning of public health care system i.e. CHCs, PHCs & Sub-Centers which led to reach mortality and morbidity due to easily curable diseases at its zenith.

The main objectives of NHP-2002 related to promotion of the rural health were as follows:

- To achieve an acceptable standard of good health amongst the general population

- To increase access to the decentralizing public health system by establishing new infrastructure in deficient areas and by upgrading the infrastructure in existing institution.
- To ensure a more equitable access to health services across the social and geographical expanse of the country.

NHP 2002 looked into the deficiency of health personnel, healthcare education, specialists in public health and family welfare, shortage of nursing personnel, use of generics, urban health, mental health, IEC, health research, enhancing the role of private sector, role of civil society, national disease surveillance network, scientific health statistics database, women's health, medical ethics, quality standards for health foods, standards for paramedics, medical tourism, inter-sectoral issues in health, population growth, increase in use of traditional/alternative systems of medicine, controlling the irrational use of drugs etc.

NHP 2002 prescribed to increase health sector expenditure (from 2% to 6% of GDP) and allocations for rural healthcare i.e. maximum for the Primary (55%) followed by secondary (35%) and tertiary (10%) health sector for reducing the inequity between urban and rural health status. The major goals set by this policy to be achieved within the time frame of 2000-2015 were as below:

Goals to be achieved by 2003:

- Enactment of legislation for regulating minimum standard in clinical establishment/medical institution.

Goals to be achieved by 2005:

- Eradication of Polio & Yaws
- Elimination of Leprosy
- Increased State sector health spending from 5.5% to 7% of the budget.
- Decentralization of implementation of public health programme

Goals to be achieved by 2007:

- Achieve zero level growth of HIV/AIDS

Goals to be achieved by 2010:

- Elimination of Kala-Azar

- Reduction of mortality by 50% due to TB, Malaria, other vector and water borne diseases.
- Reduce prevalence of Blindness to 0.5%
- Reduction of IMR to 30/1000 live births & MMR to 100/lakh live births
- Increase utilization of public health facilities from current level of <20% to >75%.

Goals to be achieved by 2015

- Elimination lymphatic Filariasis

NHP 2002 recommended the gradual convergence of all health programmes under a single field administration, vertical programmes for major diseases like TB, malaria, HIV/AIDS, RCH and Universal Immunisation programmes. It also envisaged the revival of the Primary Health System through the decentralized health system and community monitoring which will ensure a more effective supervision of human resource for rural health. The document also emphasised upon the implementation of public health programmes through Panchayti Raj Institutions, NGOs and other civil institutions. For rural population, the policy also recommended for initiation of a social health insurance and the concept of tele-medicine at CHC level for reducing health expenditure of rural people.

The overall potential of NHP-2002 strategies to enhance the core objectives tends to be positive (Varatharajan, 2003). However, it did not talk about important health issues related to the vulnerable population i.e. women, children, and aged. It was also criticized due to its assumption that doctors and allied health professionals are the only solution to the healthcare problems of this country. One of its goal related to increasing utilization of public health facilities form <20 to >75% was remarkable however, the roadmap for achieving was not clear (Duggal, Health and Development in India: Moving Towards the Right to Health, 2013). According to many scholars, several prescriptions of the policy were drafted to favour and promote private health sector. Thus, it may be inferred that NHP 2002 cannot be claimed to be a road map for meeting all the health needs of the populace of the country.

A comparative view of Millennium Development Goal (MDG) and National Health Policy 2002 (NHP-2002) is presented in following table 2.1.

Several targets for achieving MDGs were also incorporated in plan policy document.

Table 2.1: Common Targets of MDGs related to Health, NHP 2002 and 10th Five Year Plan

Millennium Development Goal			
Target	**Indicators**	**NHP-2002**	**10th Five Year Plan**
Goal 4: Reduce Child Mortality			
Target 5: Reduce by 2/3rd, between 1990 and 2015.	Infant Mortality Rate (IMR)	Reduce IMR to below 30 per 1000 live births by 2010	Reduction in IMR to 45 per 1000 live births by 2007 and to 28 per 1000 live births by 2012
Goal 5: Improve Maternal Health			
Target 6: Reduce by three-quarters between 1990 and 2015, the maternal mortality ratio	MMR	Reduction of MMR to <1 per 1000 live births by 2010	Reduction in MMR to 2 per 1000 live births by 2007 and to 1 per 1000 live births by 2012
	Proportion of births attended by skilled health personnel	Achieve 80% institutional deliveries and increase percentage of deliveries conducted by trained persons to 100% by 2010	
Goal 6: Combat HIV/AIDS, Malaria and Other Diseases			
Target 7: Have halted by 2015, and begun to reverse the spread of HIV/AIDS	Contraceptive Prevalence Rate		90% coverage of schools and colleges through education programmes
	HIV prevalence among 15-24 year old pregnant women		80% awareness among the general population in rural areas
			Reducing transmission through infected blood to less than 1%
			Establishing at least one voluntary testing and counselling center in each district

Target 8: Have halted by 2015, and begun to reverse the incidence of malaria and other major diseases	Prevalence and death rates associated with malaria	Reduce Mortality by 50% on account of Malaria by 2010	25% reduction in morbidity and mortality due to malaria by 2007 and 50% by 2010
	Prevalence and death rates associated with tuberculosis	Reduce mortality by 50% on account of TB by 2010	50 % reduction in mortality due to TB by 2010
	Proportion of TB cases detected and cured under DOTS (Directly Observed Treatment Short Course)		85% cure among new smear positive patients and detection of 70% of such cases.

The 11th Five Year Plan and 12th Five Year Plan also show the similar concerns.

NRHM: Structure, Aims & Action Plans

After groping with the health care challenges, loopholes of the previous policies of the new millennium, and to overcome the system failure, the planners have come up with a comprehensive rural health care mission by culminating and assimilating different health and health related packages in 2005, which was aptly named as NRHM. The National Rural Health Mission (NRHM) was the first health program in a "Mission Mode' and has been described as one of the largest and undoubtedly the most ambitious program to revive rural health care paradigm in independent India.

NRHM, a cynosure in the Indian health system, was launched by the Prime Minister of India on 12th April 2005, 'to provide accessible, affordable and accountable quality health services even to the poorest households in the remotest rural regions of India'. Initially the time frame of NRHM was seven years from 2005-06 to 2011-12. Thus it covers two years in the Tenth Five Year Plan (2002-07) and the whole of the Eleventh Five Year Plan (2007-12). After completion of its first phase from 2005-12 and with the inception of the 12th Five Year Plan period (2012-2017) NRHM was renamed as National Health Mission (NHM) by inducing new strategies and approaches for rural as well as urban population of India.

The thrust of the Mission was on the architectural corrections enshrined in the Preamble of the NRHM document primarily related to establishing 'a fully functional, community owned, decentralized health delivery system, organizational structure reforms in health sector, with inter-sectoral convergence at all levels, public private partnership in health sector, mainstreaming Indian System of Medicines (ISM) under Ayurveda, Yoga, Unani, Sidha, and Homeopathy (AYUSH). The mission also intended to ensure simultaneous action on a wide range of determinants of good health namely safe drinking water, sanitation, hygiene, nutrition, social and gender equality with a special attention on 18 High Focus States, which had weak public health indicators and infrastructure. Institutional integration within the fragmented health sector was expected to provide a focus on outcomes, measured against Indian Public Health Standards (IPHS) for all health facilities. From narrowly defined schemes, the NRHM tried to shift the focus to a functional health system at all levels, from the village to the district (NRHM Mission Document 2005-12). Overall, it is expected that such unprecedented efforts could help in achieving the goal of improved "availability of and access to quality health care by people, especially for those residing in rural areas, the poor, women and children". (Bhattacharjea, et al., 2010; Ashtekar, 2008; Shekhar, 2009)

The NRHM Logo

In order to demonstrate the significance and popularize NRHM across the country, a logo was made which is printed on almost all documents, posters, reports, and advertisements.

Four colours were used in the logo; the overall background was in red colour. The texts National Rural Health Mission was depicted in both Devnagari *lipi* as well as in Roman scripts in black colour. In between the logo, a family, which included a mother, father and a daughter, were faced towards a rising sun which means moving towards a brighter future. The rising sun was in yellow

Map 2.1
Logo of NRHM

colour whereas family was depicted using white colour which represents harmony and peace within the family. The logo of National Rural Health Mission is displayed in above (Sharma, 2012)

Preamble of NRHM

The opening sentence of the mission document emphasizes the importance of health in the process of social and economic development of the country. The vision of the mission is clearly earmarked and it is to improve the availability and accessibility of quality health services and the equity component emphasized especially for the vulnerable section i.e. the poor, women, children residing in rural India. The document also incorporated other determinants of health i.e. nutrition, sanitation, hygiene and safe drinking water in its synergistic approach to health.

The Vision of NRHM

The Vision of the Mission according to the document consists of the following main elements:

- Provide effective health care to the rural population throughout the country.
- Commitment of the central government to raise public spending on health from 0.9 percent to 2 to 3 percent of GDP.
- Undertake architectural correction of the health system to enable it to handle effectively increased allocations.
- Promote policies that strengthen public health management and service delivery in the country.
- Revitalize local health traditions and main-stream Ayurveda, Yoga, Unani, Sidha, and Homeopathy (AYUSH) treatments into public health systems.
- Decentralize programmes for district management of health.
- Define time bound goals and report publicly on their progress.
- Improve access of rural people, especially poor women and children, to equitable, affordable, accountable and effective primary health care.

Goals of NRHM

NRHM is an initiative to achieve some key health sector goals, where India tremendously lags behind and which was also a part of the Millennium Development Goals (MDGs) to be achieved by 2015. To accelerate the efforts, some goals were set under it as follows:-

1. Reduction of Infant Mortality Rate (IMR) and Maternal Mortality Rate (MMR).
2. Universal access to public health services such as Women's health, child health, water, sanitation & hygiene, immunization, and Nutrition.
3. Prevention and control of communicable and non-communicable diseases, including locally endemic disease.
4. Access to integrate comprehensive primary healthcare.
5. Population stabilization, gender and demographic balance.
6. Revitalize health traditions and mainstream AYUSH.
7. Promotion of healthy life styles.

The goals defined in the document can be disintegrated into two broad categories; one belongs to the outcome or impact aspect like IMR, MMR, TFR, Mortality & Morbidity due to communicable and non-communicable diseases, population stabilization, and gender and demographic balance. The other category is related to service delivery which includes both quantitative as well as qualitative components. The quantitative service components are universal access to public health services and access to integrated comprehensive primary health care. The qualitative components consist of revitalization local traditions related to health, mainstreaming AYUSH and promotion of healthy life styles.

Strategies of NRHM

Several strategies are enlisted to achieve the stated goals and integration of the existing vertical programs by addressing different social health determinants under NRHM. These strategies are divided into core and supplementary strategies as follows:

Core Strategies

- Divide the whole country into High Focus States (HFS)[1] and the rest.
- Enhance capacity of *Panchayati Raj* Institutions (PRIs) to own, control and manage public health services through continued training.
- Install a female health activist at the village level to ensure household level access to health care.
- Prepare Health Plan through Village Health & Sanitation Committee for each village level to ensure household level access to health care.
- Strengthen Sub-Centers through an untied fund of local planning, action, and induction of more Multi-purpose Workers (MPWs).
- Strengthen existing PHCs and CHCs to meet Indian Public Health Standards (IPHS) normative standards and provide 30 to 50 bed CHC per 100,000 people to improve curative health care.
- Implement an inter-sectoral District Health Plan including drinking water, sanitation, hygiene, and nutrition prepared by the District Health Mission (DHM).
- Integrate the vertical health and family welfare programmes at block, district, state, and national levels.
- Provide technical support to national, state, and district health missions for public health management.
- Strengthen capacities for data collection, assessment and review for evidence-based planning, monitoring, and supervision.
- Formulate transparent policies for deployment and career development for human resources for health.
- Develop capacity for preventive health care at all levels for promoting healthy life styles and reduction in consumption of tobacco, alcohol and so on.
- Promote non-profit sector, particularly in under-served areas.

[1] The HFS are those 18 states which have weak public health indicators and/or weak infrastructure. All north-eastern states (seven sisters i.e. Arunachal Pradesh, Assam, Manipur, Mizoram, Meghalaya, Nagaland, and Sikkim), Bihar, Chhattisgarh, Himachal Pradesh, Jharkhand, Jammu & Kashmir, Madhya Pradesh, Orissa, Rajasthan, Tripura, Uttaranchal, and Uttar Pradesh are included in HFS. This is done to reduce the regional imbalance in health infrastructure.

Supplementary Strategies:

- Regulate private sector including the informal rural practitioners to ensure availability of quality service to citizens at reasonable cost.
- Promote Public-Private Partnership (PPP) for achieving public health goals.
- Revitalize local health tradition by mainstreaming AYUSH.
- Reorient medical education to support rural health issues including regulation of medical care and medical ethics.
- Provide health security and insurance to the poor by ensuring accessible, affordable, accountable, and good quality hospital care.

Components of Action Plan

The mission document is appreciated as it translates into action all that was committed to WHO to shape the health care delivery with the primary health care approach. The Government through NRHM has suggested a wide range of components ranging from point number A to R, also called as 'Action Points'. Although there are eighteen components related to the actors and agencies in the action plan but here the important components in perspective of this research, categorized under five important dimensions i.e. Administration and Institutions, Infrastructure, Manpower, Activities and Miscellaneous at block and village level are discussed below:

Administration and Institutional Mechanisms

Under the NRHM, institutional mechanisms have been created at each level for ensuring better administration, support, community participation and improve delivery of health care services at various level like Village Health & Sanitation Committee (VHSC) and the ASHA , a community volunteer at village level, *Panchayati Raj Institutions* at village/block level, *Rogi Kalyan Samitis*(RKS) for community management at PHC and CHC level, Involvement of NGOs, and District Health Mission under the leadership of *Zila Parishad* at District and Block level for every village.

Village Health & Sanitation Committee (VHSC)

NRHM envisages the community to take leadership at village level in respect to health and its related issues. To operationalize this, a committee named as Village Health and Sanitation Committee (VHSC) under the chairmanship of *Gram Panchayat* Members, PRI representative, representative of women's group, minority community along with ASHA and ANM has been formed in every village by providing untied grant for village level activities.

For efficient functioning of the VHSC few roles and responsibilities have been laid down in the mission document. The committee will be responsible for creating public awareness about the programme and ensure community involvement in it. The committee will also analyze the health problems at village level, decide the health priorities and take appropriate action to overcome the problems. It will monitor all the health activities that are conducted in the village such as Village Health & Nutrition Day, mothers meeting etc. and will organize regular monthly meeting to discuss various issues in the village and document the minutes of the meeting. The committee shall ensure that public dialogue is organized at regular intervals (once in six month) in the presence of Medical Officer of the PHC. The committee shall ensure that all the issues discussed are recorded and action taken on the issues discussed. The VHSC will also play vital role for selecting and supporting the ASHA from the community.

Panchayati Raj Institutions

Panchayati Raj Institution in India are an age-old institution for governance at village level. Through the 73rd Constitutional Amendment of 1992, *Panchayati Raj* Institutions (PRI) were strengthened with clear areas of jurisdiction, authority and funds. PRIs have been assigned several developmental activities related to health and population stabilization since independence. Thus, it was analyzed that NRHM cannot achieve its goal without suitably and appropriately mainstreaming the PRI personnel at all the levels.

From the Mission Document, the major role of the Panchayati Raj at village level can be carved out as follows:-

1. The selection of ASHA is the responsibility of the Gram Panchayat where it will be finalized in a meeting of the *Gram Sabha* and will be accountable to the Village *Panchayat.*

2. The Village Health and Sanitation Committee of the Panchayat would prepare the Village Health Plan, and promote inter-sectoral integration.

3. PRI involvement in *RKS* for good hospital management.

4. Provision of training to members of PRIs.

5. Making available health related databases to all stakeholders, including Panchayats at all levels.

Rogi Kalyan Samitis (RKS)

RKS is an attempt made under NRHM to make "health everyone's business" by unveiling health-care delivery system at district and sub-district levels and encouraging citizen's participation in the management bodies.

RKS at PHC and CHC level are the autonomous registered bodies consisting of the facility staff (One lady doctor), members from local *Panchayati Raj* Institutions (PRIs), legislative body, civil society and officials from Government sector, and one social worker. The main function of RKS is to facilitate and undertake the day to day management of hospital/PHC/ CHC/First Referral Units activities and delivery of quality care to patients. It may impose user charges on health services on the basis of local circumstances. It may also raise funds additionally through donations, loans from financial institutions, grants from government as well as other donor agencies. Moreover, funds received by the RKS / HMS will not be deposited in the State account but will be available to be spent by the Executive Committee constituted by the RKS. The document also emphasized on enhancing the capacities of the RKS members.

Role of Non-Governmental Organizations (NGOs) in NRHM

Nongovernmental organizations (NGOs) and other civil society actors have always been engaged with the public health system to implement different health programmes at different levels. With a special focus at the micro level, NGOs made outreach to remote areas, advocated different public health issues with a special focus on the women and children, and addressed sensitive issues with a close collaboration of public health system.

The NRHM seeks participation and engagement of NGOs at different level as follows:-

1. Institutional arrangement at National, State and District levels, including Standing Mentoring Group for ASHA.
2. Provision of Training, Behaviour Change and Communication (BCC) and Technical Support for ASHAs/DHM.
3. Work at Health Resource Organisations
4. Provide Service delivery for identified population groups on selected themes.
5. Looking after monitoring, evaluation and social audit.

Infrastructure

The document recognises the reality of poor health infrastructure in the country and therefore, states it clearly that the delivery of health care services cannot effectively be achieved until and unless public health infrastructure is not upgraded. Hence the mission seeks to establish functional health facilities in the public domain through revitalization of the existing infrastructure and fresh construction or renovation wherever required. In order to make the delivery system more functional and effective, the mission emphasizes upon correction in manpower planning and infrastructure strengthening at all levels.

At Sub Centre Level

A Sub Centre (SC), having its own building (desirable), well fenced, electricity connection backed up by inverter/solar power, and water connection, should be located within the village, so that no person has to travel more than 3 km for accessing its facilities. According to the norm, every SC should have residential facility for ANM and Health Worker (male) with separate entrance, however, if there is no residential facility then proper accommodation should be made available to ANM on rent within the village where SC exist. The SC's building should have a prominent board displaying the name of the Centre in the local language at the gate and on the building. Proper sign boards in local language providing information regarding the services available, the timings of the Sub-Center, visit schedule of ANMs and person responsible for redressal of complaints should be displayed at a prominent place.

Adequate furniture should be provided to the Sub-Centres. According to the norm, the essential list of furniture consist of an examination table, a table, chairs, labour table, one bed with mattress, fans, tube light etc.

The equipment provided to the Sub-Centres should be adequate to provide all the assured services in the Sub-centers i.e. equipment necessary for conducting safe deliveries at Sub-, home deliveries, immunization, contraceptive services like IUD insertion, etc. In addition, equipment for first aid and emergency care, water quality testing, blood and Urine testing equipment, weighing scales etc. should also be available.

At PHC Level

The PHC should have a building of its own with a clean surroundings. The building should have a prominent board displaying the name of the Centre in the local language at the gate and on the building. PHC should have placed pictorial, bilingual, directional and layout sign board for providing information regarding the public utilities (toilets, drinking water), services available/user charges/fee and the timings of the center at appropriate places. Citizen charter including patient rights and responsibilities shall also be displayed at OPD zone and Entrance gate in local language.

There should be 4-6 beds in a PHC. Separate wards/areas should be earmarked for males and females with the necessary facilities and furniture. Every PHC should have labour room with a labour table along with functional radiant warmer, oxygen cylinder and suction machine. It should be well lit and ventilated with attached toilet and drinking water facility. Minor OT should also be located close to the OPD for catering patients for minor surgeries and emergencies. Dispensing unit, laboratory with essential reagents and a store should also be provided for its proper functioning. In PHCs having AYUSH facility, necessary infrastructure such as consultation room for AYUSH Doctor and separate AYUSH drug dispensing area should be made available. For maintaining database and Management Information System (MIS), the document also ensure the availability of computer with internet connection at every PHC.

Medical Officer should be available on call duty to manage emergencies and for making this possible, the norm prescribed to provide accommodation to at least

one Medical Officer and 3 Staff Nurses within the vicinity of PHC. If due to any reason, the accommodation cannot be provided then the staffs may be paid house rent allowance for staying in near vicinity of PHC, so that they are available round the clock, in case of any emergency.

The equipment provided to the PHCs should be adequate to provide all the assured services as per the document. PHCs must have equipment necessary for assisted vacuum and forceps delivery, standard surgical set for providing family planning services like vasectomy and tubectomy, equipment for new born care & neonatal resuscitation, refrigerator, separate weighing machine scales for adult and child, height measuring scales etc.

At CHC Level

The CHC should have 30 indoor beds with one Operation theatre, labour room, X-ray, ECG and laboratory facility. The centre should be located at the centre of the block headquarter, well connected by all-weather road, having adequate electricity and water supply in order to improve access to the patients. It should be away from garbage collection area, cattle shed, water logging area etc. Fire extinguishers, sand buckets, etc. should be available and maintained to be readily available as and when needed.

The entrance area of the building should have visible display boards in local language providing information regarding the timings for OPD, available services, name of available departments and their concerned doctors, and user fees if applicable. Directional and layout sign boards for all the essential public utilities (drinking water, lavatories, etc.), separate for males and females should also be displayed bilingually with the help of proper images. Citizen charter along with patient's rights and responsibilities should be exhibited at Entrance and OPD zone in readable local language. Suggestion/complaint boxes for the patients/visitors should also be positioned and also information regarding the persons responsible for redressal of complaints should be displayed along with their contact numbers.

Regarding physical space specification, every CHC should have entrance zone consisting of Registration/Record room having adequate area for making queue, separate pharmacy store and dispensing unit for allopathic medicine and AYUSH, cubicle with attached toilets with basin for 4 General Doctors, 2 AYUSH Doctors,

and 8 Specialist service providers. Other than these spaces, treatment room consisting of Minor OT and observation room, one refraction room, one nursing room, one casualty, one injection room, one female injection room, separate toilets are also required. Under diagnostic zone, there should be a pathology lab, sample collection room, Imaging (for X-Ray & Ultrasound) room, and dark room. There should be separate wards for male and female patients also. Administrative zone should be allocated two separate rooms for establishing office and store. For residential purpose, every CHC must have 8 quarters for doctors as well as for staff nurses/paramedical staffs. Other than these 16 quarters, 2 quarters should be made for ward boys and one for the driver. If there is a lack of accommodation facility, the staff should be paid house rent allowance for staying in near vicinity of CHC so that he/she may be available round the clock in case of any requirement.

Manpower

Dearth of trained Manpower for providing health care services in villages has consistently been identified by all committees/commissions and policies before and after independence as a major hurdle in providing health care services to villagers. NRHM provides skilled, semi-skilled, and administrative manpower at three different levels i.e. at the village level (Sub-Centre), group of villages (PHC), and at block level (CHC). A brief detail of manpower and their qualification at three level is given below.

Manpower to a Village (Sub-Centre)

Accredited Social Health Activist (ASHA), Auxiliary Nurse Midwife (ANM) and a male health worker are envisaged critical for providing health care services to villagers. ASHA is a grass root level worker who is appointed on the recommendation of *Gram Sabha*. She should be what is called "daughter of the village" i.e. she should belong to the village. There must be an ASHA for a population of 1000 in a village. Preferably, an ASHA should have the qualification of middle schooling however, only literate person may be appointed as ASHA if a person with required qualification is not available. A 23 days training programme is prescribed for ASHA for making them able to perform their duties of dispensing medicines for oral dehydration, coughs, colds, and fevers; dressing wounds, identification of communicable and life threatening diseases like TB, prenatal and postnatal care, and community

mobilization, maintaining registers etc. Her services are voluntary. She is paid honorarium according to her performance.

In addition to ASHA, every Sub-Center must have an ANM, a male Multipurpose Worker (MPW) and a part time *Safai karamchari.*

Manpower to a group of Villages (PHC)

According to IPHS norm, PHC may be categorized into two on the basis of delivery case load i.e. Type A where delivery load is less than 20 per month and Type B having deliveries more than 20 per month. IPHS also distributed the total Manpower required for both types of PHC into two lists i.e. essential list which is mandatory for all PHCs and desirable list, which is to be adopted as per the need and case load. The essential list of manpower consists of one MBBS qualified Medical Officer, one accountant, one pharmacist, three staff nurse or nurse-midwife, one health worker (female), Health Assistant (male), one lady health visitor, one lab technician, two multi-skilled group D worker and one sanitary worker cum watchman. In B type PHCs, an extra Staff-Nurse is prescribed thus making a total of 13 and 14 essential human resource for effective functioning of PHCs of type A and PHCs of type B respectively. Other than essential list, a total of 05 and 08 extra human resources for Type A and Type B respectively has been placed in the desired list. Type A desired list consists of one medical officer and one pharmacist from AYUSH system of medicine, one Staff Nurse, one health educator and one cold chain & vaccine logistic assistant. In addition to the desired list of Type A, two more manpower were allocated to Type B desired list consisting of one MBBS medical officer and one sanitary worker cum watchman.

Auxiliary Nurse Midwife (ANM)

In addition to ASHA, ANM is critical in the design of Manpower at Village level. Every Sub-Center of village must be provided an ANM who poses required qualification of prescribed program for the task. It is the ASHA who reports to the ANM and the ANM reports about the health conditions and facilities to Health Officer. Indeed, she is a supervisor of ASHA and responsible for taking the care of the work performed by ASHAs. Furthermore a Sub-Center at village level must be provided a male health worker (MPW) and a part time *Safai Karamchari.*

Manpower at Block Level (CHC)

According to IPHS norm, a total of 46 essential manpower should be placed at CHC level. The enlisted essential and desired manpower is categorized into six types. The first category is of Block level Health unit consisting of one Block Medical Officer/Medical Superintendent, One Public Health Specialist and one Public Health Nurse. One more Public health nurse is desired under this category. The second category is of manpower providing speciality services by a general surgeon, a physician, an obstetrician & Gynecologist, a Pediatrician and an Anesthetist. General Duty Officer's category consists of a dental surgeon, a Medical Officer from AYUSH background and two general duty medical officers with MBBS degree. Next category of Human Resource at CHC level is of Nurses and Paramedical consisting of 10 staff nurse, one pharmacist for dispensing English medicines and one for AYUSH medicines, two lab technicians, one radiographer, an ophthalmic assistant, a dental assistant, one operation theater technician, one community-based rehabilitation worker and a counsellor. One dietician and an extra community based rehabilitation worker are also placed in desired list. Administrative category consists of two clerks, two data entry operators, one accountant and one administrative assistant. Last category is of Group D staff, which should have five ward boys, a dresser and a driver. Three more drivers were included in the desired list under this category. Thus, the total manpower at CHC level including desired personnel should be 52.

Activities & Services

Strengthening of Sub-centers

Component B, C and D of mission document calls for strengthening of health institutions i.e. Sub Centers (SC), Primary Health Centers (PHC) and Community Health Centers (CHC) respectively for providing preventive, promotive, curative and supervisory & outreach services at village and block level.

Sub Centre, the most peripheral health institution of public health care delivery system should be manned by at least one ANM or Female Health Worker (FHW) who is considered as the key element in the successful functioning of ASHA in any village. Each sub center has been allocated an Untied Fund also for local action at the rate of ₹ 10000 per annum which is deposited in the joint account of ANM and *Sarpanch* and operated by the ANM in consultation with VHSC headed by the

Sarpanch. The mission documents also promises to provide AYUSH and allopathic medicines at SC level as per the requirement. Additional outlays for MPW [2](male), additional ANMs wherever needed, upgrading existing sub-centers including buildings are also explicitly spelled in the document as well as in Indian Public Health Standard (IPHS) guidelines[3].

Strengthening of PHCs

In order to improve the quality of preventive, promotive and curative services, the PHCs will be strengthened through

a) adequate and regular supply of essential quality drugs and equipment,

b) provision of 24 hour services in 50 percent PHCs by addressing shortage of doctors through mainstreaming AYUSH manpower,

c) additional outlays for intensification of ongoing communicable disease control programs, new programs for control of non-communicable diseases, upgrading 100 percent PHCs for 24-hour referral service, and provision of a second doctor at PHC level (1 male & 1 female) as per the requirement.

Strengthening CHCs and FRUs

According to the document, all the CHCs at the time of implementation of NRHM i.e. 3222 CHCs should be converted into 24 hours First Referral Units (FRUs) with compulsory posting of one specialist service provider i.e. anesthetists. IPHS[4] norms for infrastructure, manpower, equipment, management, and so on should be fulfilled by CHCs. *Rogi Kalyan Samitis* (RKS) or patient welfare committees or hospital management societies should be formed for hospital management. It was also

[2] The concept of Multipurpose Health Worker (Male and Female) was introduced in 1974 for the delivery of preventive and promotive health care services to the community at the level of Sub-center (also represented as Sub-Health Centers).

[3] IPHS are a set standards envisaged to improve the quality of health care delivery to rural population at SC, PHC and CHC level. These IPHS provides guidelines for strengthening the public health care institutions and assessing the functional status of different health facilities.

4 IPHS are a set of uniform standards envisaged to improve the quality of health care delivery in the country. The IPHS documents have been revised keeping in view the changing protocols of the existing programmes and introduction of new programmes especially for Non-Communicable Diseases. Flexibility is allowed to suit the diverse needs of the States and regions. These IPHS guidelines will act as the main driver for continuous improvement in quality and serve as the bench mark for assessing the functional status of health facilities. States and UTs should adopt these IPHS guidelines for strengthening the Public Health Care Institutions and put in their best efforts to achieve high quality of health care across the country.

provisioned under NRHM that through RKS, each health facilities would be provided funds for emergency situations to provide medicines and other requirements to any patient in need (Sharma, 2012). Additional outlays for creation of new CHCs (with 30 to 50 beds) to fulfill the requirement of population could be considered.

Expected Outcomes of NRHM:

At National Level

1. Infant Mortality Rate reduced to 30/1000 live births.
2. Maternal Mortality Ratio reduced to 100/100,000.
3. Total Fertility Rate reduced to 2.1
4. Malaria Mortality Reduction Rate - 50% upto 2010, additional 105 by 2012.
5. Upgrading Community health centers to Indian public health standards.
6. Increase utilization of First referral units from less than 205 to 755.

At Community Level

1. Availability of trained community level worker at village level, with a drug kit for generic ailments.
2. Health Day at *Anganwadi* level on a fixed day/month for provision of immunization, ante/post natal checkups and services related to mother and child healthcare, including nutrition.
3. Availability of generic drugs for common ailments at sub center and hospital level.
4. Good hospital care through assured availability of doctors, drugs and quality services at PHC/CHC level.
5. Improved access to Universal Immunization through induction of Auto Disabled Syringes, alternate vaccine delivery and improved mobilization services under the programme.
6. Improved facilities for institutional delivery through provision of referral, transport, escort and improved hospital care subsidized under the Janni Suraksha Yojana[5] (JSY) for the Below Poverty line (BPL) families.

[5] The prime objective of the JSY, the largest safe motherhood intervention under the NRHM umbrella, is to reduce maternal and neo-natal mortality by promoting institutional delivery among poor pregnant women. The scheme seeks to address both demand and supply side issues, covering, among others, early registration, micro-birth planning, referral transport, institutional birth, post delivery visits and reporting, and family planning and counselling. All pregnant women belonging to the BPL households and of the age of 19 years or above will be covered under the scheme for up to two live births.

Several attempts were made by the Governmental and Non-Governmental Organizations as well as individual researchers to critically analyze the document of NRHM and to find out the impact of notable interventions under NRHM to the health status of the country (Sharma, 2012).

Gill (2009) in his working paper on primary evaluation of NRHM applauded about many innovative ideas implemented under NRHM. They are "creation and up-gradation of human and financial resources of health facilities at all levels; revitalizing and mainstreaming traditional medical practices; flexible funding; converging health, nutrition, water, sanitation and hygiene activities through District Health Plans; integration of vertical health and family welfare programmes; fostering public-private partnerships with better regulation of the private sector; instituting Indian Public Health Standards; and creation of Janani Suraksha Yojana (JSY), Accredited Social Health Activists(ASHAs), Hospital Development Societies (HDS) or Rogi Kalyan Samitis (RKS); Village Health and Sanitation Committees (VHSC). Among them JSY, ASHA workers, RKS and VHSub-Centers have drawn the major attention as mechanisms of reducing infant and child mortality and maternal mortality, by improving ante natal and post natal care and institutional deliveries".

On the contrary, 11th Five Year Plan document exhibits several drawbacks of Indian Public Health System in general and NRHM in particular. They are

a. Centralized planning instead of decentaralised planning and using locally relevant strategies,
b. Institution based on population norms rather than habitations;
c. Fragmented disease specific approach rather than comprehensive health care;
d. Inflexible financing and limited scope for innovations;
e. Semi-used or dysfunctional health infrastructure
f. Inadequate provision of human resources;
g. No prescribed standards of quality;
h. Inability of system to mobilize action in areas of safe water, sanitation, hygiene, and nutrition (key determinants of health in the context of our country)-lack of convergence; and
i. Inability to mobilize AYUSH and RMPs and other locally available human resources.

While discussing the strategies of the NRHM, the 11th Five Year Plan document admits that there are formidable problems thus the MMR can't be reduced substantially even after implementation of JSY. At the same time, the plan also recognizes that encouraging women to go to health facilities for delivery alone cannot reduce MMR to zero. It accepts that the country does not have adequate institutional capacity to receive all women giving birth each year and the half of the maternal deaths occur outside delivery, i.e. during pregnancy, abortions, and postpartum complications.

Service conditions for HRH are also a bottleneck in achieving the desired goal. In an article, Jabob (2011) said that there are number of challenges in front of NRHM to deliver effectively. One of the prominent difficulty is the lack in basic amenities and services at the health centre as well as the locality which hampers the government to place trained and qualified doctors in remote rural areas. Therefore, there is a need for "differential payments to health care staff who work in difficult context and remote locations".

Different document established the positive impact of NRHM also on each and every dimension of Indian health care system. But it also widened the growing inequalities between States and the level of achievements to be far from satisfaction. (IIPS Fact Sheet of concurrent Evaluation of Rural Health Mission 2009).

Evaluating NRHM in an objective and efficient manner is also a tedious work for scholars. Planning Commission (2012) in its evaluation report of NRHM named "NRHM-the Progress So Far" shed the light on the difficulties one may face while evaluating a national project like NRHM due to lack of endline data on all the parameters and components discussed in the document. Another difficulty is the dynamic concept of health, which depends upon a number of co-factors such as socio-economic conditions of people, their living and working conditions, education, degree of social integration, awareness, cultural beliefs, quality of environment, availability and accessibility of health facilities.

In fact under this research, an attempt has been made to evaluate the overall performance of the National Rural Health Mission in terms of those above discussed action points at block level.

Chapter - 3

The Universe and the Methodology of the Study

CHAPTER 3

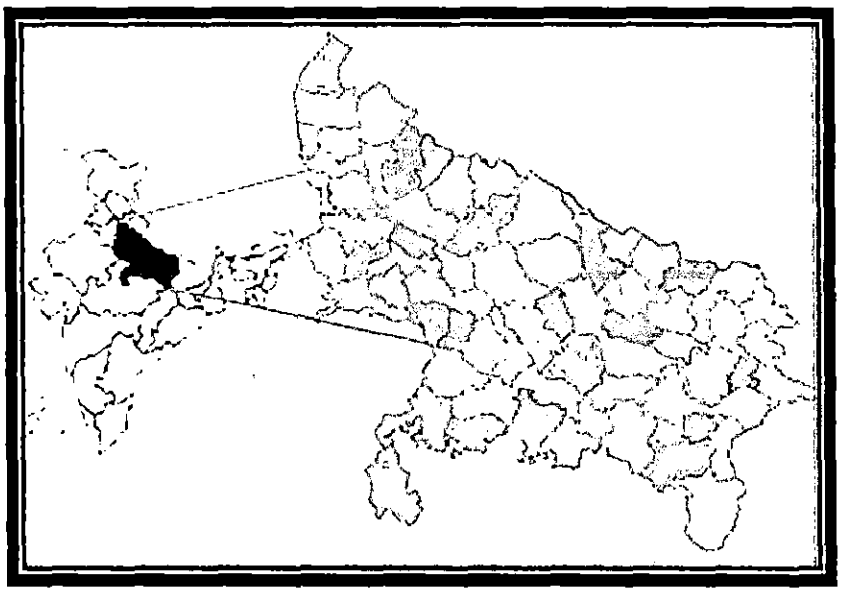
THE UNIVERSE AND THE METHODOLOGY OF THE STUDY

This is an evaluative study of implementation and outcome of NRHM in selected villages of Jawan Development block, district Aligarh, Uttar Pradesh. This chapter is broadly divided into two parts. Part one of the chapter provides a bird's eye view about the district and analyse its demography and health conditions in relation to average conditions of health in the state of Uttar Pradesh(UP). An attempt is also made to compare broad health indicators of UP with national average in order to describe health status of UP in the country. Hence, the broad health indicators of the district are compared with that of the state and of the state with the country.

The second part of the chapter is devoted to describe the implementation and outcome of NRHM as reported by individual researches and organisational surveys in the districts. However, the focus of this section is to elaborate the logic of enquiry or the design of the study. In addition, tools of data collection and data analysis are explained in detail. Furthermore, the aims, the relevance, and the limitation of the study are also elaborated in this section.

Uttar Pradesh

UP is one of the 29 states of India which lies in the north zone of the country (See Map 3.1). With a total population of 199.8 million people as per the census 2011, it accounts for 16.49 per cent population of the country.



Map 3.1
Position of Uttar Pradesh on Map of India

Indeed, it is the most populous, culturally rich and politically significant state of the country. Many scholars aptly described it as the heart of the country. The state is deeply diverse in its geography, culture, and way of living. People of different faiths such as Hindus, Muslims, Christians, Sikhs, and Buddhists and so on reside in the state however, the Hindus and Muslims constitute near about 98 per cent population of the state and the remaining 2 per cent population is of other religious groups. Administratively it is divided into 72 districts, 312 tehsils, 821 community development blocks, 52021 Gram Panchayats and 1.07 lakh villages[1]. Lucknow is the capital of the state.

Demographic and Health Condition in Uttar Pradesh

The figures in following table 3.1, provide a view of demographic characteristics and literacy rate over last four decades in the state.

Table 3.1: Trends in Basic Demographic & Health Indicators for Uttar Pradesh 1971-2011

S. No	Index		1971	1981	1991	2001	2011
1	Population		88341421	110862512	139112287	166197921	199812341
2	Percent population increase		19.80	25.50	25.50	25.80	20.23
3	Density (population/sq.km)		300	377	473	690	829
4	Rural Population Percent		86.0	82.0	80.2	79.22	77.72
5	Sex Ratio		879	885	879	898	912
6	Literate	Male	31.5	38.8	55.7	67.3	77.28
		Female	10.6	14.0	25.3	43	51.36
		Total	21.7	27.6	41.6	56.27	67.68
7	Crude Birth Rate		44.9	39.6	36.2	30.2	28.7
8	Crude Death Rate		20.1	14.0	25.3	8.6	8.1
9	Total Fertility Rate		6.6	5.8	5.1	4.4	3.82
10	Infant Mortality Rate		167.0	150.0	98	74.3	61
11	Life Expectancy	Male	NA	51.1	54.1	62	63.6
		Female	NA	46.9	49.6	61.9	63.0

Source: *Office of the Registrar General (1992, 1993a, 1994), Office of the Registrar General and Census Commissioner (1987, 1992), Ministry of Health and Family Welfare (1991, 1992), Census of India 2001, Primary Census Abstract for Total Population, Scheduled Caste and Schedules Tribes, 2011, SRS, 2012.*

[1] http://www.brandbharat.com/english/up/Blocks%20of%20Uttar%20Pradesh.html accessed on 22/07/2015.

The population of UP recorded during 1971 Census was 88341421 persons which increased to 199812341 persons in 2011 thus an accretion of 111470920 persons during last fourty years. In percentage terms, the growth of population during 2001-2011 is 20.23 per cent which is lower by 5.57 percent points from the previous decade. In 1971, the percent population growth was 19.80 per cent. With the population explosion, an increase in the density of population can also be seen across censual decades. The population density of UP in 2011 is 829 persons per square kilometre. There is an increase of 139 persons in the density from Census 2001, however, the population in rural domain decreased across censual decades. The rural population in 1971 was 86 per cent of the total population of UP which reduced to 77.72 per cent in 2011. TFR was also reduced from 6.6 in 1971 to 3.82 in 2011.

Besides the growth of population in UP, another noticeable change in the dynamics of population parameters is literacy. The total literacy rate of UP recorded in 1971 census was 21.70 per cent which jumped to 67.68 per cent in 2011. The similar trend is visible in case of male and female literacy rate also.

Sex ratio, in UP depicts an increasing trend since 1971. It rose from 879 to 912 in 2011. The table also exhibits the gradual decline in birth rate i.e. from 44.9 (1971) to 28.7 (2011) and death rates i.e. from 20.1 (1971) to 8.1 (2011) in the past four decades. Due to decline in birth rate, death rate and IMR, life expectancy of the people of UP has also gone up in the last four decades. The pathetic performance of UP in almost all the demographic and health indicators since last four decades as shown in Table No 2, made the health status of the state the lowest in the country.

A comparison of UP is made with two of the five states namely Bihar and Madhya Pradesh (MP) described as BIMARU states by Ashish Bose on the one hand, on the other hand with Kerala, a state ranked highest among all the states of India on health and literacy indicators as well as with National Average in the following Table 3.2. The figures in the table explicitly show that UP is one of the backward states of India on demographic and health indicators.

Table 3.2: Comparative Health Profile of UP, Bihar, MP, Kerala and India

Indicator	Uttar Pradesh	Bihar	MP	Kerala	India
Total Population (In Crore) (Census 2011)	19.96	10.38	7.26	3.33	121.01
Decadal Growth (%) (Census 2001)	20.09	25.07	20.3	4.86	17.64
Crude Birth Rate (SRS 2013)	27.2	27.6	26.3	14.7	21.4
Crude Death Rate (SRS 2013)	7.7	6.6	8	6.9	7
Natural Growth Rate (SRS 2013)	19.5	21	18.4	7.8	14.4
Infant Mortality Rate (SRS 2013)	50	42	54	12	40
Maternal Mortality Rate (SRS 2010-12)	392	219	230	60	178
Total Fertility Rate (SRS 2012)	3.3	3.5	2.9	1.8	2.4
Sex Ratio (Census 2001)	908	916	930	1084	940
Child Sex Ratio (Census 2011)	899	933	912	959	914
Total Literacy Rate (%) (Census 2011)	69.72	63.82	70.63	93.91	74.04
Male Literacy Rate (%) (Census 2011)	79.24	73.39	80.53	96.02	82.14
Female Literacy Rate (%) (Census 2011)	59.26	53.33	60.02	91.98	65.46

Source: *Tabulated from SRS 2013, SRS 2012, SRS 2010-2011, Census of India 2001, Census of India 2011.*

According to Census 2011, UP has been one of the most highly populated states in India and thus the state is at the pinnacle in terms of population in comparison to the other states and contribute about 17 per cent of total population of India. Birth Rate, Growth Rate and TFR is highest in Bihar with a figure of 27.6, 21, and 3.5 respectively followed by UP i.e. 27.2, 19.5, and 3.3 respectively. The number of deaths of infants under one year old per 1,000 live births is highest in MP (54) followed by UP (50). Kerala exhibits the lowest IMR and MMR i.e. 12 and 90 respectively, whereas, Maternal Mortality Rate is highest in UP (392) followed by MP (230) and Bihar (219). Kerala is also the only state having the positive sex ratio i.e. 1084 females per 1000 males whereas UP is having 908 which is 32 points below the national average. From the above table, it is apparent that there is a close relationship between literacy level and health outcome of any state. Kerala, with a total literacy rate of 93.91 enjoys better health status whereas MP, UP and Bihar with a total

literacy rate of 70.63, 69.72 and 63.82 respectively, paint a grim health scenario of the states. (Bose, 2006, p. 151).

The pathetic demographic and health indicators of UP in comparison to Kerala and India average is equally evident from the above table no. 2, furnished from different government reports and surveys. The state tops in contributing to the national figure of IMR, MMR, TFR, and other maternal and child health indicators. NRHM, also adjudged UP as the most populous as well as most vulnerable state in India and thus placed at the top among 18 High Focus States enlisted in its policy document. According to the report on 'Health Status of the Districts of India', the Staff, Infrastructure and Supply (SIS) Index of UP lies in the medium composite score range and is among the lowest performing states along with Arunachal Pradesh, Assam, Nagaland, Meghalaya and BIMARU states (Bose & Adhikary, 2008, pp. 26-27).

Table 3.3: Rural Health Care Infrastructure and its Distribution in Uttar Pradesh (as on 31.03.2013)

Type of Rural Health Care Infrastructure		UP	India
Sub Centre	Total Number of Sub-Centers in position	20521	148366
	Total Number of Sub-Centers required	31037	
	Shortfall	10516	
	Average Rural Population covered	7569	5497
	Average Villages covered	5	4
Primary Health Centre	Total Number of PHCs in position	3692	23940
	Total Number of PHCs required	5172	
	Shortfall	1480	
	Average Rural Population covered	44427	34103
	Average Villages covered	31	26
Community Health Centre	Total Number of CHCs in position	773	5187
	Total Number of CHCs required	1293	
	Shortfall	520	
	Average Rural Population covered	200928	160738
	Average Villages covered	138	124

***Source:** Ministry of Health & Family Welfare, Govt. of India (ON385)*

Health infrastructure plays a vital role and is considered as the backbone of the delivery of public health activities in any state. Therefore, it is an important indicator for assessing the health condition of any state (Novick, Morrow, & Mays, 2008).

UP is having dismal and pitiable number of public rural healthcare facilities. It suffers from a severe shortage of health infrastructure as per the norms prescribed by the government (see table 3.3). Being the most populous state, the existing number, lesser than the national average, is meagre for providing quality health care services to villagers. This paved the way for the mushrooming growth of private health care sector with unwanted procedures and thus providing costly health care facilities to the poor and vulnerable villagers.

It is also believed that there is a strong positive relationship between health infrastructure and health status (Anand, 2014). Due to dismal health infrastructure, the health status of the people in Uttar Pradesh is amongst the lowest in the country (Annual Health Report 2012-2013, Uttar Pradesh) however, with the implementation of different health policies and schemes, a slow positive change in health status may be observed in the consecutive NFHS reports (UP segment) presented in the below table no. 3.3

Table 3.4: Trend in Basic Health Indicators in Uttar Pradesh

Sl. No.	Indicator	Year	Uttar Pradesh
1	Natural Growth Rate	(2010- SRS[2])	20.2
		Rural	20.7
		Urban	17.9
2	Crude Birth Rate	(2010- SRS)	28.3
		Rural	29.2
		Urban	24.2
3	Crude Death Rate	(2010- SRS)	8.1
		Rural	8.5
		Urban	6.3
4	Total Fertility Rate (TFR)	N.F.H.S.-I[3]	4.82
		N.F.H.S.-II[4]	4.06
		N.F.H.S.-III[5]	3.82

[2] Sample Registration Survey
[3] NFHS stands for National Family Health Survey. The NFHS I report was of 1992-93.
[4] NFHS II – 1998-1999

5	Contraceptive Prevalence Rate	N.F.H.S.-I	19.8
		N.F.H.S.-II	27.1
		N.F.H.S.-III	43.6
6	Contraceptive Prevalence Rate (Modern Methods)	N.F.H.S.-I	18.5
		N.F.H.S.-II	20.8
		N.F.H.S.-III	29.3
7	Contraceptive Prevalence Rate (Modern Methods) Spacing Methods (IUD, Pills and Condom)	N.F.H.S.-I	5.5
		N.F.H.S.-II	6.1
		N.F.H.S.-III	11.8
8	Women with 2 Children Who Want No more Children (%)	N.F.H.S.-I	NA
		N.F.H.S.-II	43.7
		N.F.H.S.-III	64.2
9	Women with 2 Daughters Who Want No more Children (%)	N.F.H.S.-I	NA
		N.F.H.S.-II	17
		N.F.H.S.-III	36
10	ANC registration- Antenatal Care (Any)- % of women who received ANC	N.F.H.S.-I	45
		N.F.H.S.-II	35
		N.F.H.S.-III	67
11	Antenatal Care (3ANC visits)-% of women who received 3 ANC visits	N.F.H.S.-I	NA
		N.F.H.S.-II	14.6
		N.F.H.S.-III	26.3
		DLHS-III	21.9
12	Institutional Delivery	N.F.H.S.-I	11.2
		N.F.H.S.-II	15.2
		N.F.H.S.-III	22
		DLHS-III[6]	24.5
13	Post Natal Check-up	N.F.H.S.-I	NA
		N.F.H.S.-II	NA
		N.F.H.S.-III	15
13	Full Vaccination Coverage	N.F.H.S.-I	19.8
		N.F.H.S.-II	22
		N.F.H.S.-III	23
		CES 2009	40.9
21	Underweight Women [% of ever married women with BMI is below normal]	N.F.H.S.-I	NA
		N.F.H.S.-II	36.5
		N.F.H.S.-III	34.1

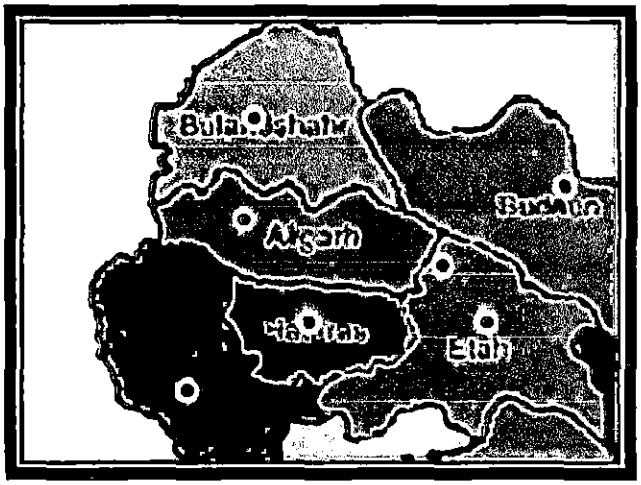
[5] NFHS III- 2005-2006
[6] DLHS III-2007-2008

Infant Mortality Rate (I.M.R)					
Sl. No.	**SRS**	**Uttar Pradesh**	**India**	**Survey**	**Uttar Pradesh**
1	2003	76	60	N.F.H.S.-I	99.9
2	2004	72	58	N.F.H.S.-II	89
3	2005	73	58	N.F.H.S.-III	73
4	2006	71	57		
5	2007	69	55		
6	2008	67	53		
7	2009	63	50		
8	2010	61	47		
Post Natal Check-up					
N.F.H.S.-III			15		
(Maternal Mortality Ratio) MMR (SRS Estimates)					
Year		**Uttar Pradesh**	**India**		
2001-03		517	301		
2004-06		440	254		
2007-09		359	212		

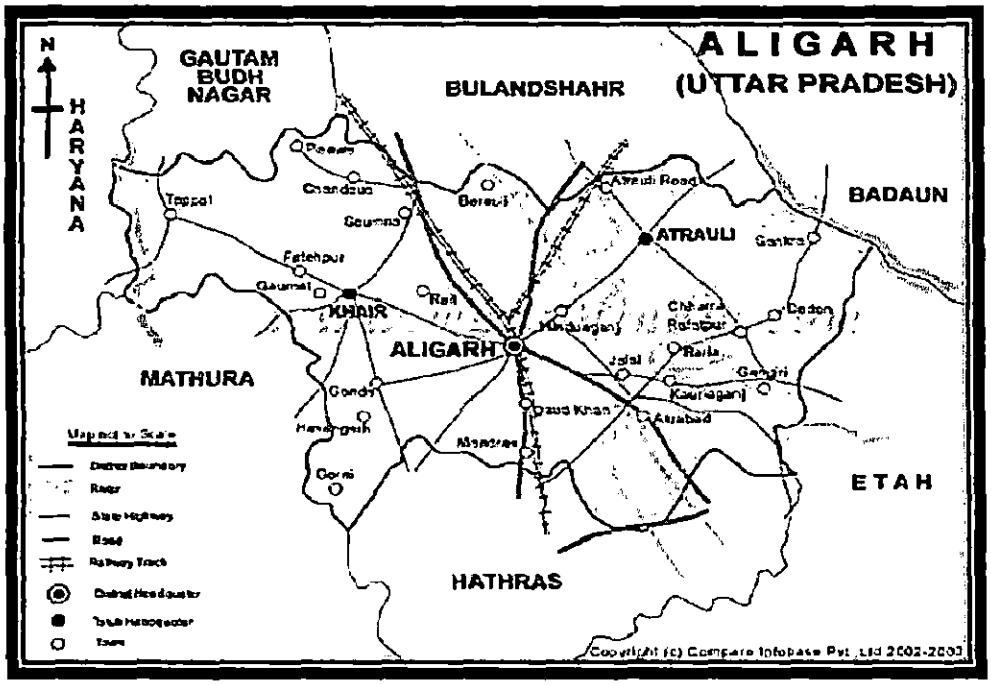
However, in comparison to other states and India average, almost all the major health indicators depict a grim scenario of UP in general and Aligarh in particular.

The District Aligarh

Aligarh district is one of the seventy-two districts of UP located in the western part of Uttar Pradesh at a distance of 132 kilometres from New Delhi (India's capital city). It is closely bounded by the Ganga and the Yamuna rivers in the East and the West respectively.



Map 3.2
Location of Aligarh and adjacent districts



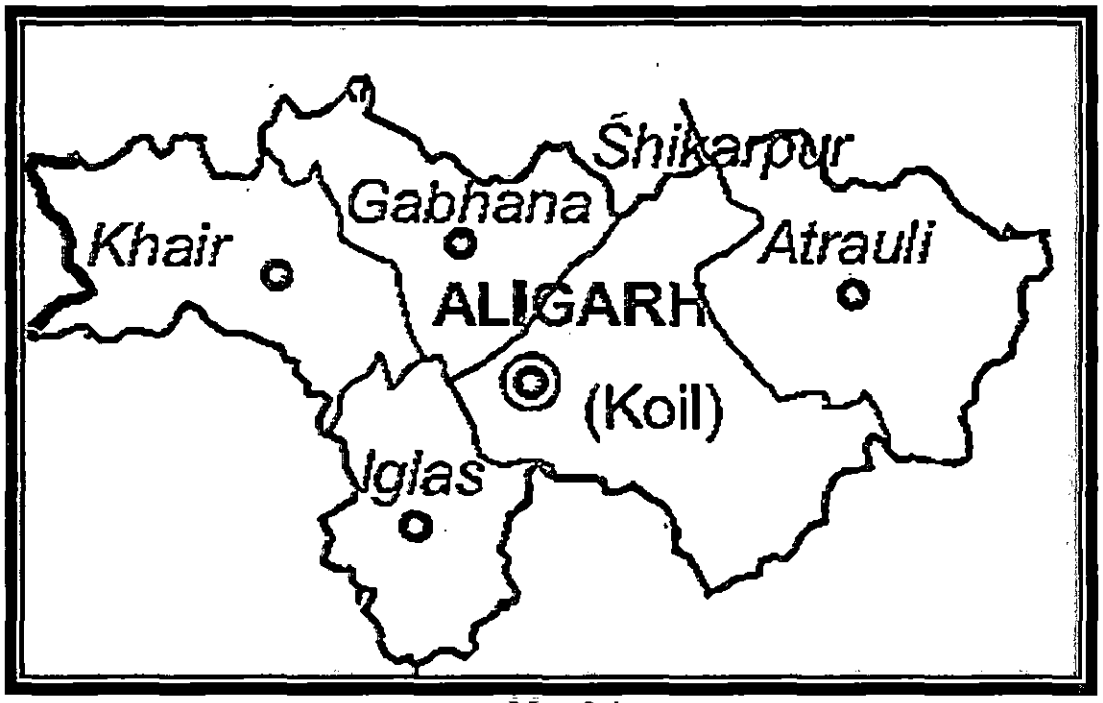
Map 3.3
Map of District Aligarh

The river Ganga separates the district from the district of Badaun in the extreme north-east, while the river Yamuna forms a dividing line in the north-east between Aligarh and the Faridabad district of Haryana. In the north, its boundary is purely conventional and touches the Anupshahar and the Khurja tehsil of Bulandshahar district. It is bounded by the district of Hathras in the south, Etah in the east and Mathura in the west and south west (See Map No.3.2). The maximum extent of the district from north to south and from east to west is about 62 kilometres and 116 kilometres respectively. Due to creation of Hathras district in 1988, the shape of Aligarh district is now dominated by an east west protrusion. According to provisional Census Report 2011, the district has a total geographical area of 5019 sq. Km. It ranks 27th and 13th among all other districts in terms of total area and population respectively.

The district has an extensive network of roadways also; National Highway 91 and 93 connecting it to the rest of the districts within the state. The Delhi-Howrah main railway line of North-Central Railway passes through the middle of the Aligarh city. It is a junction station with Aligarh-Barailly railway line.

From the administrative point of view, the district has been divided into five sub-districts (tehsils) namely Atrauli, Gabhana, Khair, Koil and Iglas (See Map 3.4). In population, Koil is the largest and Iglas is the smallest tehsil. These five tehsils are

further subdivided into 12 community development blocks namely, Atrauli, Gangiri, Bijauli, Jawan, Chandaus, Khair, Tappal, Dhanipur, Lodha, Akrabad, Iglas and Gonda, which include 853 Gram Panchayats and 1199 villages (See Map 3.5).



Map 3.4
Tehsil-wise map of District Aligarh

Map 1.5
Block-wise map of Aligarh District

Population and Health

The total population of Aligarh district according to the census of 2001 is 2,990,388 persons, whereas the total population of the state of Uttar Pradesh is 16,605,285 persons. Female population stands at 1,383,166 and male population stands at 1,607,222. The male population is about two lakhs more than female population (Census of India, 2001).

As mentioned above the total population of the district was 3673889 persons in 2011, about 7 lakh more than 2001. As per figures of census 2001, male constituted 1,383,166 (53.7 %) and the remaining 1,607,222 (46.3%) population of female. Hence the sex ratio (females per 1000 males) in the district was 856 which below the state as well as below national average.

Of the total population of the district 71.12 percent resides in the rural domain whereas 28.88 percent in urban areas. Thus, Urbanization in the district is higher than that of the state average i.e. 22.38 percent.

Block wise population, sex ratio and literacy rate in the district is presented in following table 3.5. The total number of villages and *Gram Panchayats* are also included in the table for proper understanding the spread of blocks of District Aligarh.

Regarding health profile of Aligarh district, the below two tables explicitly present its status in comparison to UP.

Table 3.6: Comparative Status of Major Health Indicators of Aligarh and UP

Sl. No.	Indicator	Year	Aligarh	Uttar Pradesh
1	Natural Growth Rate (AHS 2010-11)	Total	19.4	16.9
		Rural	20.5	17.8
		Urban	17.2	13.7
2	Crude Birth Rate (AHS 2010-11)	Total	26.9	25.5
		Rural	28.6	26.9
		Urban	23.1	20.6
3	Crude Death Rate (AHS 2010-11)	Total	7.5	8.6
		Rural	8.2	9.1
		Urban	6	6.9
4	Total Fertility Rate (TFR)	Total	3.7	3.3
		Rural	3.8	3.4
		Urban	3.6	3.1
5	Infant Mortality Rate (IMR)(AHS 2010-11)	Total	68	71
		Rural	69	74
		Urban	66	54
6	Neo-natal Mortality Rate (IMR) (AHS 2010-11)	Total	47	50
		Rural	47	53
		Urban	47	36
7	Post Neo-natal Mortality Rate (AHS 2010-11)	Total	21	21
		Rural	22	22
		Urban	19	18
8	Maternal Mortality Rate (AHS 2010-11)	Aligarh Mondal (Aligarh, Hathras, Etah)	371	345

Table 3.7: Comparative Status of Maternal Health of Women in Aligarh and Uttar Pradesh

Indicators	DLHS-2		DLHS-3	
	UP	Aligarh	UP	Aligarh
Marriage				
Mean age at marriage (Boys)	21.5	21.8	21.6	21.9
Mean age at marriage (Girls)	18.1	18.7	18.4	18.8
Per cent of boys married below age of 21	45	39.2	43.2	43.7
Per cent of girls married below age of 21	41.4	31.6	32.9	26.7
Family Planning				
Any method (%)	35.6	39.8	38.4	36
Any modern method (%)	26.2	29.3	27.2	29.6
Pills (%)	2.5	4	1.3	1.9
IUD (%)	1.6	3.5	1	1.1
Condom (%)	7.3	9.9	6.7	10
Female Sterilization (%)	14.4	11.3	17.5	15.4
Male Sterilization (%)	0.2	0.2	0.2	0.3
Maternal Care				
% of women received ANC check-up	57.8	52.2	64.3	71.6
% of women received 3 or more ANC	24.6	26.3	21.8	20.2
% of women received full ANC	4.4	4.2	3.3	2.9
Delivery Characteristics				
Delivery at Home	77.2	74	52.3	65.4
Delivery at Govt. Facilities	8.5	25.7	24.5	31.9
Delivery by skilled Attendants	28.7	8.6	5.8	6
% of Children who received vaccination				
% of Children who received all vaccination	26.4	25.3	30.3	29.2
% of Children who received no vaccination	36	40.1	3.4	1.2
Awareness of RTI/STI & HIV/AIDS				
% of women heard about RTI/STI	29.1	22.6	29.5	34.4
% of women heard about HIV/AIDS	34.5	30.6	37.9	37.6

Source: *Tabulated from the reports of DLHS-2 and DLHS-3*

Profile of Block and Villages of the study

Villages of Block Jawan are selected for the study because of two reasons:

1. The area of the block is easily accessible to individual researcher as it is located adjacent to the city of Aligarh

2. This block is a part of tehsil Koil which has the largest concentration of Muslim population in the districts. Hence, in order to select villages having substantial population of majority and Minority, this block appeared to be convenient for the study. As mentioned above, this is one of the 12 blocks of the Aligarh, which has many influences of urban life because of its being in close proximity with Aligarh City. As per Census 2001, it has a population of 2, 11,390 scattered around an area of 226.7 sq. kms in 78 *Gram Panchayats* and 146 villages. The average density of the block is 712 persons per square kilometre which was lesser than the district average of 725. Jawan has sex ratio of 872 females per thousand males, which is below the national and state average however above the district average of 855.

As per official statistics, Jawan has one CHC at block headquarter, which is also acting as First Referral Unit (FRU), four PHCs namely Baroli, Cherat, Surajpur, and Chalessar. Under these CHC and PHCs, there are 30 Sub Centres (Sub-Centers) with a total 30 ANM (5 vacant), 178 positioned ASHAs and 240 Aanganwari Workers (AWW) catering to the needs of the rural population of Jawan block. There is a dearth of physical infrastructure as well as manpower in the block in respect of IPHS prescribed norms.

Of the 109 villages of the block, 20 are selected for the study. The selection of the villages is purposive as half of the villages are selected because of their being substantially minority population. Name of the villages, concerned Sub-Center and PHC along with their categorisation and the frequency of sample selected from each village is given in the below table 3.8

Table 3.8 Category wise Name of the selected Villages and their Representation

S.No	Category	Name of the Sampled Minority Concentrated Villages	Concerned Sub-Center	Concerned PHC
1	Minority Concentrated Villages	Manzoorgarhi	Manzoorgarhi	Jawan
2		Islamnagar	Manzoorgarhi	Jawan
3		Pothi	Tamkoli	Jawan
4		Talibnagar	Talibanagar	Jawan
5		Nagla Mewati	Sunana	Cherat
6		Pilaouna	Pilaouna	Cherat
7		Regaspuri	Sunana	Cherat
8		Mirzapur	Cherat	Cherat
9		Pilaouna	Pilaouna	Cherat
10		Baroli	Baroli	Baroli
11	Majority Concentrated Villages	Bhemgarhi	Jarothi	Jawan
12		Jawan Gaon	Jawan	Jawan
13		Tejpur	Jawan	Jawan
14		Sapera Bhanupur	Sapera Bhanupur	Cherat
15		Sapera Manpur	Sapera Manpur	Cherat
16		Sunana	Sunana	Cherat
17		Surajpur	Surajpur	Cherat
18		Satha	Satha	Cherat
19		Sumera	Sumera	Cherat
20		Nagla Banjara	Sunana	Cherat

Research Design

Research Design is a comprehensive master plan generally meant for setting up the research in such a way so as to derive systematic and logically sound conclusions (Lal Das, 2005). It provides the broad framework within which the research will be conducted. Among its various aims, one of the important is to decide the data to be collected, the sample to be selected and the manner in which the collected data to be organised. And this is all for the purpose of providing conclusive answer to the problem posed in the research.

There are different types of research design which differ in terms of purposes thus designing of research cannot be uniform. Since this study aims at exploring the implementation and outcome of NRHM at micro level, the design of the study is descriptive and exploratory. An exploratory research is mainly concerned with

gaining familiarity with a phenomenon or to achieve new insights into it, in order to generate data or to formulate a more precise research problem. An exploratory study would always be descriptive. Descriptive research studies are mainly concerned with describing the characteristics of a particular individual, or a group, or a community (Kothari, 2004, p. 37).

This study has three fold objectives

a. To investigate into NRHM's policy prescription about infrastructural facilities and existing realities.

b. To examine the availability of Infrastructural facilities and their operation in minority and majority concentration villages in order to find out the inclusion or exclusion of Minority in health care services.

c. To assess the outcome or impact of the programme in villages by collecting information from household.

Hence the main questions which this study addresses to find out the answers are

a. Is there correspondence or gap between policy prescription and existing health care services in villages? If the gap does exist, what is the extent of this gap?

b. Are the benefits of the programme equally available to all sections of the society i.e. Minority and Majority

c. Has the programme succeeded in transforming the scenario of health facilities and conditions in villages?

The fundamental questions taken under this study are

A. What are the notable transformations in rural health care and delivery system due to NRHM?

B. How was NRHM executed and what are its achievements / feats?

C. Whether these achievements are distributed equally across religious groups?

Sample Size and Sampling Plan

Exploratory design is not conclusive design rather is highly flexible and informal. In this study, multi-stage sampling design using purposive and convenience sampling method was adopted to select a representative sample which ensures that

the selected sample is sufficiently representative of the population to justify running the risk of taking it as representative (Las Das, 2005).

Out of twelve blocks of the district, one block namely Jawan is selected on the basis of convenience. There is only one CHC at the block level and thus it was selected for the study. In the next stage, two PHCs, out of four were selected and then twenty villages comprising of 10 minority concentrated villages and 10 majority concentrated villages were chosen with the help of key informants and the available data. Out of these twenty villages, 4 PRIs, 4 concerned ANMs, 10 ASHAs and 198 respondents were selected for data collection. Out of 198 households, 66 were Muslims and 132 were Hindus.

The following is the step wise process of sampling:

1. A sample size (N) of 198 respondents from Villages of Jawan block, Aligarh (representing Minority and Majority concentrated villages) to be selected.
2. Identification of Minority and Majority concentrated villages[7] on the basis of data and key informants.
3. Selection of 10 Minority and 10 Majority concentrated villages on the basis of highest concentrations of each religious community.
4. Selection of a sample of 10 households having married women (18-34 years)with at least a child of less than 5 years were taken from each village with the help of ASHA and other key informants. However the number depends upon the availability of respondents serving the purpose.
5. Selection of 4 PRI representatives, two from minority concentrated villages and two from majority concentrated villages, as per their availability at the time of field visit for the data collection.

Thus a total of 1 CHC at block level, 2 PHCs at the village cluster level, 4 ANMs at Sub Centre level and 10 ASHAs at Village level and 4 PRIs were selected.

Tools of Data Collection

The data from the individual women respondents of reproductive age group (18-34years) with at least one live birth within five years preceding the survey was collected using the formal structured schedule (Appendix-1). Further for facility level survey, data was collected from the key informants related to the health institutions of

[7] Minority Concentrated Villages are the villages having Muslims more than 25% of the total population.

Jawan Block i.e. Sub-Center, PHC and CHC consisting of ASHA, ANM, PRI representatives, MOIC of CHC and PHCs using semi-structured interview schedule (Appendix-2 to 6). In addition, secondary sources of data in the form of Census data, government reports like Annual Health Surveys, National Family Health Survey (NFHS), District Level Household Survey (DLHS), websites and related studies were also used to develop the health profile and the trend for the research area.

Research Instrument

In this study the primary data was collected by using six different types of structured and semi-structured schedule for household respondents, ASHAs, ANMs, and three semi-structured schedule for RKS/PRI representatives, MOIC of PHCs and CHC of the Jawan block (Appendix 1 to 7).

The Household schedule was divided into eight parts:

1. **Identifying Information** with 03 basic questions on identifying information of the respondent of the household.
2. **Background Information** with a total of 07 questions on the socio-economic and demographic profile of the respondents.
3. **Household status and facilities available** part enquires about the social status and the different facilities available within the house and consist of 21 questions
4. **Fertility Behaviour Information** with a total of 7 questions was developed to gain knowledge about the reproduction behaviour and their attitude/perception towards number of fertility, desire for future fertility, preference of fertility, etc.
5. **Antenatal, Natal and Post-Natal Care** with a total of 13 questions related to the services available and its utilisation by the respondents covering from antenatal to post natal period of the reproduction phase.
6. **Attitude towards ASHA & their role** is the next section of the questionnaire having a total of 11 questions related to the perception and attitude of the respondents towards ASHA and the services rendered by her under NRHM.
7. **Attitude towards ANM & their role** consist of 9 questions related to the services provided by Sub Centre through ANM and her role & attitude towards the health of villagers.

8. **Community Linkages to PHC** is the last section of the household questionnaire with 5 questions. These questions enquire about the respondent's linkages and utilisation of the services provided at PHC level.

The second schedule related to Accredited Social Health Activist (ASHA) was divided into nine parts:

1. **Identifying Information** with 04 basic questions on identifying information of the ASHA.
2. **General Information** with a total of 4 questions related to their job profile and placement.
3. **Selection Process** is the third section dealing with the information related to ASHA's selection procedures. A total of 03 questions are placed in this section.
4. **Training** section enquires about the trainings provided to the ASHA and its outcome after their placement.
5. **Role & Responsibility** section with a total of 4 questions, enquires ASHA's perception related to their own roles and responsibilities for delivering health care services under NRHM.
6. **Service delivery under NRHM** section consists of 4 questions for enquiring about different kind of services provided by the ASHAs to the villagers under NRHM.
7. **Knowledge, Behaviour & Attitude** with a total of 04 questions for assessing the knowledge of the ASHAs, which is responsible for the change in behaviour and developing positive attitude towards the health dimensions.
8. **Coordination and monitoring** section of the schedule with a total of 27 questions was designed to assess the coordination among ASHAs and the other public health service providers like ANM and MOIC.

The third schedule related to Auxiliary Nurse Midwife (ANM) was divided into eight sections i.e. Identifying Information, General Information, infrastructure & facilities at SC, Manpower at SC level, Interventions and Activities under NRHM, Service Delivery under NRHM, Knowledge, Behaviour & Attitude and the last section is related to Coordination & Monitoring.

Other than these two service providers at village level, semi-structured schedule for PRI representatives, MOIC of PHCs and CHC of the Jawan block focusing on different dimensions of NRHM were also made for performing facility level survey.

A pilot survey was conducted for testing the adequacy of the questions of all the schedules so that the irrelevant and duplication of responses and their entry may be restricted. The researcher personally interviewed the respondents selected from the universe/population with the help of structured schedule and semi-structured interview schedule. Schedules were filled by the researcher on the basis of the information provided by the respondents. Proper cross checking, wherever required, was also made with the help of concerned ASHA and ANM for avoiding inconsistency.

Data Processing and Analysis

The purpose of the data processing and its analysis is to organise and summarize the completed observations in such a manner that they yield answers to the research questions (Bhandarkar & Wilkinson, 2002, p. 59). The data collection from field was followed by the rigorous scrutiny of the structured schedules for the errors and inconsistencies in process of data collection and filling in of structured questionnaire schedules. The scores were transferred to the master chart as the code, and then to the computer using statistical package, SPSS (windows version 20.0). Finally analysis and interpretation of data was made according to the objectives of the study. It involved formulation of frequency distribution tables followed by re-categorization of variables to develop cross tables and other type of analysis.

Limitation of the Study

The study is limited to only one block of district Aligarh and is based on a sample of data collected from a total of 20 villages representing the concentration of specific religious group. The replication of the study at different regions of India would enable better generalizability of the findings of the study.

Another limitation is the absence of health related unbiased data across religion at state and district level for exploring the complex link between identity and health status of the people. The study also relied on descriptive information provided by the service provider which might leave room for important details to be left out during interview.

Chapter Scheme

The study has been divided into five chapters excluding introduction and conclusion. Chapter I outlines the context of the study and provides the review of literature pertaining to the concept of welfare state and health policies, the connection between health services provider (State) and health services receiver (community), and implementation and outcome of various health policies programmes, and schemes of health mainly in post independent India. An attempt is also made to present the inter connection between state, community and health in a diachronic perspective. The chapter also briefly mentions policies, programmes, and schemes of health evolved through five year plans in the country until the end of 20^{th} century

Chapter II explains vision, mission, goals and strategies of NRHM. It starts with brief discussion on the Millennium Development Goals (MDGs) and National Health Policy of 2002 as a background to the introduction of NRHM.

Chapter III provides a bird's eye view about the demographic and health condition of the sampled district and elaborate the logic of enquiry or the design of the study consisting of research methodology, research design, sampling plan, tools of data collection and analysis. In this chapter at length discussion has been made on the implementation and outcome of NRHM as reported by individual researches and organizational surveys in the districts. In addition, the aims, the relevance, and the limitation of the study are also elaborated in this chapter.

Chapter IV gives detailed account of the execution of NHRM and the existing realities at the ground level which is substantiated by the researcher's field inputs. It starts with brief discussion on rural health care system in rural areas. In this chapter the researcher attempt to present the major functions and activities of major components of NRHM i.e. Sub Centers, ANMs and VHSC, Sub-Centers, PHCs, CHC and more. The chapter further moves to the major findings of the public health facilities available in rural areas as guided and prescribed by the IPHS norms. The concluding part of the chapter centers around the discussion on major bottlenecks explored by the researcher on various dimensions i.e. infrastructure, equipment and furniture, manpower, available services of NRHM at community level health facilities.

Chapter V has provides a detailed analysis of health condition of both majority and minority women/respondents of 18-34 years of age who gave at least one live birth within five years period preceding the survey for analysing the attitudes of women towards health care services, quality of services provided to them, their fertility behaviour and so on. After outlining the profile of the respondents, the response of women is correlated with their living condition, education, age at the time of marriage etc. using univariate and bivariate tables.

The next section i.e. conclusion summarizes the key findings of the research with conclusion and suggestions for future possible study in the area.

The conclusion section is followed by bibliography developed using APA style through word and medleys reference tools. The appendices at the end contains different structured and semi-structured interview schedules developed and used in this study.

Chapter - 4

Implementation of NRHM: Policy Prescription and Existing Realities

CHAPTER 4

IMPLEMENTATION OF NRHM: POLICY PRESCRIPTION AND EXISTING REALITIES

In order to judge the actual and the factual position of the public health in rural areas with respect to the policy prescription, a comparative account of certain public health standards were accomplished under the research. This chapter gives detailed account of the execution of NRHM and also looks into the recommendations made in NRHM and the existing realities which is substantiated by the researcher's field inputs. It starts with brief discussion on rural health care system, its structure, health service administration at district level and health care system in rural areas. In this chapter the researcher attempted to present the major functions and activities of NRHM and its components like Sub Centers, ANMs and VHSCs, PHCs, CHC. The chapter further moves to the major findings of the public health facilities available in rural areas as guided by IPHS norms. The concluding part of the chapter centered around the discussion on major bottlenecks explored by the researcher on various dimensions like manpower, accessibility of the health facility, manpower, etc. at Sub-Centers, PHCs and CHC level.

Health Care System in Rural India

The health care system in India, at present, is delivered through a three-tier structure to provide health care services to its people. The first tier, known as primary tier, has been developed to provide health care services to the vast majority of rural people. The primary tier comprises of three types of health care institutions i.e. Sub Centre (SC), Primary Health Centre (PHC) and Community Health Centre (CHC). The secondary tier comprises of district level hospitals which cater to the health related needs of urban population. And the tertiary health care, provided by health care institutions located generally in urban domain, which are well equipped with sophisticated diagnostic and investigative facilities.

Several initiatives were taken by the government to provide and ensure basic health care services through a network of health care and delivery system at rural level. However, in spite of a vast network of health care institutions in India , there exists a wide gap between the rural and urban areas in terms of availability and

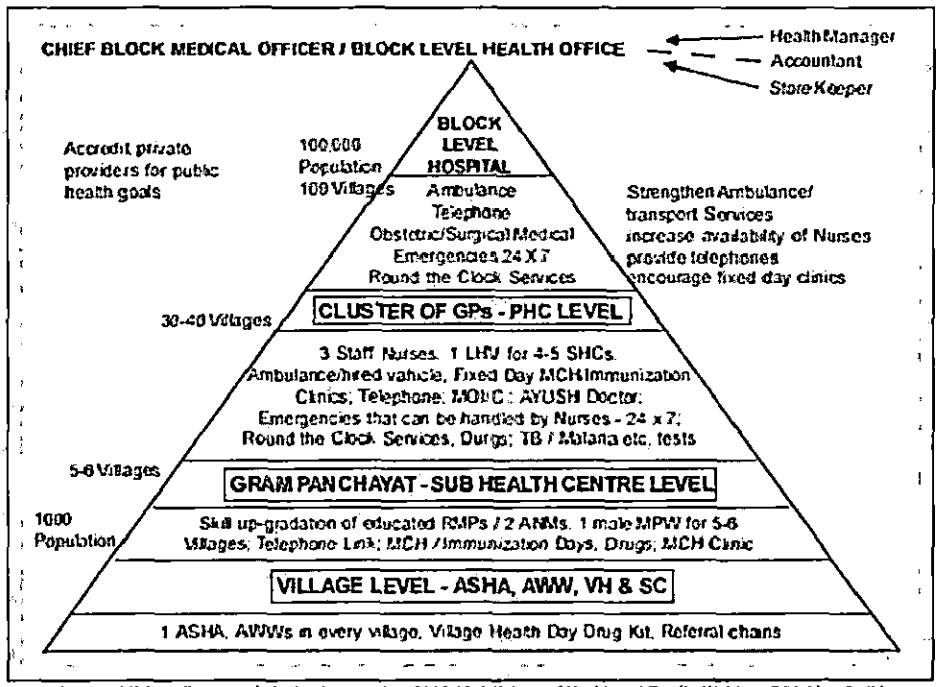
accessibility of health care infrastructure, as the urban areas are found better equipped with these facilities. Moreover, health being a state subject, thus there are various imbalances and variations in availability and accessibility of these services in the rural areas across the states.

However, the inadequacies and widened gap in the policy measures, planning, availability and accessibility of healthcare infrastructure across population and states have been duly recognised in NRHM policy document and attempts have been made to address this imbalance in access to health care services by strengthening the rural health infrastructure with a special focus on 18 High Focused States.

Rural Health Care System – the structure and current scenario

The rural health care infrastructure has been developed to provide primary health care services through a network of integrated health and family welfare delivery system. This network in rural areas has been categorised in a three tier system (see Fig.4.1). The first tier, known as primary tier, has been developed to provide health care services to the vast majority of rural people. The primary tire comprises three types of health care institutions: Sub-Centre (SC), Primary Health Centre (PHC) and Community Health Centre (CHC).

Figure 4.1: Illustrative Structure of Rural Health Care System under NRHM



Source : NRHM, Framework for implementation, 2005-12, Ministry of Health and Family Welfare, GOI, New Delhi

Health Service Administration at District Level:

In Health administration, the State has two Directorates each one is headed by (i) Director General, Medical Health services, (ii) Director General, Family Welfare. NRHM has also a separate unit- "State Project Management Unit (SPMU)" for proper management of different programme of NRHM. Programme Managers, for each component of NRHM are designated as 'General Manager'. Most of the staff has been hired on contract; some have been brought on deputation. 18 divisional Programme management Units (PMUs), 75 Districts PMUs and 820 Block PMUs have also been established in Uttar Pradesh.

At Divisional level Additional Directors are providing leadership for implementation of programme and Divisional PMU is working as monitoring cell. In the districts, Chief Medical Officer (CMO) is the in-charge of health department and Chief Medical Superintendents (CMS) is the heads of the male, female and combined hospitals.

In any district, government health care services are provided by district male, female and combined hospitals, CHC at block level, PHCs at *Gram Panchayat* level and Sub-Centers at village level.

Health Care System in Rural Areas

Despite the rapid growth of its large cities, India remains a predominantly rural nation, with more than 70% of its people residing in rural areas. The public health system in rural areas is organized hierarchically, consisting of wide network of CHCs, PHCs, and Sub-Centers, however, these institutions with many flaws were not enough to cater the basic health care of villagers. To improve the accessibility of rural people to the basic healthcare facilities across the country, the Government of India launched a comprehensive health programme with architectural corrections i.e. NRHM in April 2005.

The institutional design of the NRHM includes a number of entities at different levels – village, district, state and central, however, its prime focus is on architectural improvement of the public health system in rural areas. NRHM also introduced Indian Public Health Standards (IPHS) norms for various dimensions like infrastructure, manpower, facilities and services to be provided at various levels of rural health institutions. All the state governments are aiming to upgrade their rural

health centers as per IPHS norms. Finding out the gaps in these rural health centers in comparison to IPHS is warranted to assist the authorities and policy makers to strengthen the existing health policies and in building a comprehensive policy for providing health care that is quality oriented and sensitive to the needs of the community.

The present study reflect the existing reality of health infrastructure, manpower, activities and services of rural health institutions provided at different levels of primary tier of public health care system after the implementation of NRHM. Starting from the bottom of the tier, the major institutional mechanism of NRHM and its components explored by the researcher in this chapter are:

1. Village Level – Sub-Centers, ANMs and VHSC
2. Cluster of Gram Panchayats Level – PHCs
3. Block Level – CHC

Sub Center at Village Level

Sub-centre, the first contact point between the rural health system and the village community, is expected to provide promotive, preventive and a few curative primary health care services to the villagers. It is placed at the lowest level of the three-tier structure of health care delivery system in the country. As per the present norm, one sub-centre is to be established for every 5000 population in plain areas and for every 3000 population in hilly/ tribal areas.

The NRHM has opened up a number of possibilities for improving the quality of public health and its delivering institutions. The policy makers of NRHM made a concerted effort and developed the standards and guidelines i.e. IPHS norm to maintain certain standards for Sub-Centers and other health institutions at block level (PHC & CHC) with respect to infrastructure, manpower, furniture and equipment, activities and services, citizen's charter etc. and to maintain an acceptable quality of care. The prime objective of the IPHS for Sub-Center is to provide community oriented quality health care to the villagers.

For assessing and comparing the Sub-Centers as per the IPHS norm, 4 Sub-Centers out of a total of 30 Sub-Centers of the block i.e. Baroli, Manzorgarhi, Pilaouna and Tamkoli from two different PHCs i.e. Cherat and Baroli were

purposively selected with the help of key informants. All selected Sub-Centers were from Type A category.

The researcher initiated the process of data collection at SC level by seeking kind consent from the superintendents of the concerned CHC, MOICs of concerned PHCs and obtaining clearance from the University Ethical Committee to conduct the study. A pre-tested schedule specially meant for assessing Sub-Centers and the role of ANM was used to collect necessary information at panchayat level. Verbal consent from the 4 ANMs of the selected Sub-Centers were also obtained before initiating the process of data collection. For assessing the VHSC component and decentralisation of health system, 4 PRIs of the selected Sub-Centers village were also interviewed.

Location and Accessibility of the Selected Sub-Centers

The below table 4.1 explicit the information related to geographical location and covered population of the selected Sub-Centers.

Table 4.1: Geographical Location and Population coverage of the Sampled Sub-Centers of Jawan Block, Aligarh

S.No	Indicator	Baroli	Manzorgarhi	Pilaouna	Tamkoli
1	Type of Sub Center	A	A	A	A
2	Distance from CHC (approx.)	9.1 km	14.8 km	6.1 km	16.4 km
3	Distance from PHC (approx.)	0 km	9.4 km	6.1 km	
4	Name of the PHC	Baroli	Cherat	Jawan	Baroli
5	Total number of villages covered	05	06	06	03
6	Name of Villages covered by SC	Baroli, Shyampur, Ramnagar, Daupur, & Pokhargarhi	Manzorgarhi, Haibatpur Siya, Ramnagar, Siyo Khas, Islamnagar, Bhagwangarhi	Pilaouna, Gariya, Seempur, Rauhera, Bhojpur, and Khutaina	Tamkoli, Pothi, Nagla Banjara,
7	Name of Minority Villages covered by SC	Baroli (01)	Manzorgarhi, Ramnagar, Islam Nagar, Bhagwangarh(04)	Pilaouna (01)	Pothi (01)
8	Availability of Metallic road from villages to SC	Yes	No	Yes	No
9	Total population coverage (approx.)	10014	8396	9036	5757
10	Location of the SC	Periphery	Periphery	Periphery	Central

Note : Km-Kilometer; CHC-Community Health Center; PHC-Primary Health Center; SC-Sub-Center.

Source: *Based on Primary Field Survey*

The farthest village from the selected Sub-Centers are located within a radius of 5 km except Tamkoli where the village *Pothi* is located at the distance of 6 Km from the SC. The distance from PHC was recorded as 9.4 km, 6.1km, and 8 km from Manzorgarhi, Pilouna and Tamkoli respectively. However, the SC in Baroli is located in front of the PHC building. All the selected Sub-Centers are located in the radius of 6-17 km and the distance to CHC was recorded as 9.1 km, 14.8km, 6.1 km and 16.4 km from Manzorgarhi, Pilouna, Pilaouna and Tamkoli respectively. Three of the selected Sub-Centers are located at the periphery of the village where as SC at Timkoli, functioning from a rented building was located at the center of the village. Other than the location, accessibility of Sub-Centers also play a vital role in utilisation of services provided at the facility. Two of the Sub-Centers i.e. Manzorgarhi and Tamkoli were connected to village by *kaccha* road which created hurdle in utilisation of services by the villagers during rainy season. One sampled Sub-Center i.e. Manzoorgarhi cater the health needs of 04 minority concentrated villages whereas rest three caters only 1 minority concentrated villages respectively

Health Infrastructure at SC level

Health infrastructure can be classified into many categories. According to IPHS document, it may be classified into following categories:

- Physical Infrastructure consisting of buildings for clinics, basic facilities, residence of staffs etc.
- Medical Equipment and Other furniture consisting of medical equipment and furniture for administration.
- Transportation
- Drug and other consumable supplies
- Information and Communication Technology consisting of telephone, computers, internet etc.

Physical Infrastructure

(a) ***Sub-Centre building***

Three out of four selected Sub-Centers i.e Baroli, Manzorgarhi and Pilaouna were established in the government owned building. Except SC at Pilouna, all the three were constructed at the periphery of their respective villages. The condition of the buildings were also pathetic. Only SC of Manzorgarhi was newly constructed thus

showing smooth plastered walls with paint whereas the other Sub-Centers were seen with broken plaster, fading paint and had many signs of algae and lichens on it. However, the condition of floor of all the Sub-Centers was acceptable.

As per the IPHS standards, a sub-centre not having its own building should be rented in a central location with adequate space and which should be easily accessible by the population. All the three Sub-Centers established in government building were having three rooms (two big room & one small room) with proper light and ventilation. However, Tamkoli SC, in rented premise was having one big room which was also being shared by the AWW of the village and a small room was utilized for equipment and furniture. Limited availability of space inhibits the privacy needed for performing procedures and discussing personal issues essential in providing effective Family Planning counselling. It was also observed that the Sub-Centers were also not having boundary wall with proper gate as per the norm.

Table 4.2: Physical Infrastructure Available at the Sampled Sub-Centers of Jawan Block, Aligarh

S. No	Indicator	Baroli	Manzorgarhi	Pilaouna	Tamkoli
1	Availability of Govt. Building	Yes	Yes	Yes	No
2	Availability of Boundary Wall	Yes	Yes	Yes	No
3	Availability of Boundary Wall with Gate	Yes	No	No	No
4	Availability of Display Board	Yes	Yes	Yes	Yes
5	Availability of Readable display board	No	Yes	No	Yes
6	Complain/Suggestion Box	No	No	No	No
7	Sign Board displaying the name and mobile number of the person responsible for redressal of complaints	No	No	No	No
7	*Display of Citizen's* Charter	No	No	No	No
8	No. of big rooms	2	2	2	1
9	No. of Small rooms	1	1	1	1
10.	Ramp for use of trolley	No	No	Yes	No

Source: *Based on Primary Field Survey*

(b) Basic Amenities and Facilities at the Sub-Centers

Basic amenities for example toilet, water supply, electricity, telephone etc. are essential part of any Sub-Centre's infrastructure. Table 4.3 presents the information of the amenities available in the selected Sub-Centre buildings in the Jawan Block.

Table 4.3: Basic Amenities and Facilities Available at selected Sub-Centers of Jawan Block, Aligarh

S.No	Indicator	Baroli	Manzorgarhi	Pilaouna	Tamkoli
1.	Male Toilet	Available	Available	Available	Available
2.	Female Toilet	Available	Available	Available	Not Available
3.	Electricity Supply	Not Available	Not Available	Not Available	Not Available
4.	Power Back-up	Not Available	Not Available	Not Available	Not Available
5.	Running Water	Not Available	Not Available	Not Available	Not Available
6.	Source of Water	Hand-pump	Hand-pump	Hand-pump	Hand-pump
7.	Telephone Facility	Not Available	Not Available	Not Available	Not Available
8.	Transportation Facility for SC's Manpower	Not Available	Not Available	Not Available	Not Available

Source: *Based on Primary Field Survey*

All the selected Sub-Centers in government building were having India marka made government hand-pump whereas in Tamkoli Sub-Center, a personal hand-pump was provided by the owner of the building. Among the three, hand-pump of Sub-Center in Manzoorgarhi was not in a working condition at the time of visit. Thus, none of the selected Sub-Centers were having running water and over-head tank facility as desired in the IPHS document. Proper electric connection as well as power back-up was also not available at Sub-Centers in Baroli, Manzorgarhi and Pilouna. However, electrical equipment and wiring were available at Baroli Sub-Centre. Regarding toilet facilities, all the Sub-Centers have separate toilet facilities except the Sub-Center in Tamkoli. At the time of visit, all these toilets were found locked and on enquiry from concerned ANM, the researcher came to know that due to unavailability of *Safai Karamchari,* it was difficult for her to maintain and open the

facility for the general population visiting the facility. Telephone facility at the centers were also not provided, however, the state government was providing a little amount for maintaining a cell phone.

In recent times, hospital waste (syringes, needles and other medical waste) gained importance due to the use of disposable syringes for vaccination and thus it became a necessity to carefully dispose-off this accumulated waste, however, none of the Sub-Centers had proper facility for waste disposal like deep burial pits etc.

From the information gathered on infrastructure and amenities available in the selected Sub-Centers, it was seen that they require protected and piped water supply, establishment of electricity connection, availability of functional and proper toilet facilities and construction of own government building were the important inputs for achieving the IPHS standard. The detrimental quality of existing buildings, lack of security and other essential facilities like transportation, etc. should also be emphasized by the policy makers because these factors also play important role in the performance and utilization of the centers.

(c) Residential facility

As per the IPHS, residential facility should be made available to the ANMs with each one having 2 rooms, kitchen, bathroom and toilets within the premise of Sub-Centers. Residential facility for one male health worker should also be provided contiguous with the main Sub-Centre area.

Table 4.4: Availability of Residential Facilities at Sampled Sub-Centers of Jawan Block, Aligarh

S.No	Indicator	Baroli	Manzorgarhi	Pilaouna	Tamkoli
1	Residential Facility for ANM	Yes	Yes	Yes	No
2	Residential Facility for Male Health Worker	No	No	No	No
3	Whether ANM is residing in SC premise	No	No	No	No
4	Distance of ANM's residence from SC	0.2 km	6.0 km	6.1 km	16 km

Source: *Based on Primary Field Survey*

Table no 4.4 shows the availability of residential facility for ANM and Male Health Worker in the selected Sub-Centers and whether the facility of residence serves the purpose as per the norm or not. All the Sub-Centers established in government building provides residential quarters for ANMs however, due to detrimental quality of the building and lack of security, none of the ANMs were found to be residing in these quarters. Except the ANM of Baroli, none of the ANM had their residence at the near vicinity of their concerned Sub-Centers. The distance of the ANM's residence (except Baroli) from their concerned Sub-Centers ranges from 6 km to 16 km. During the process of data collection, it was also found that in one of the ANM quarter within the premise of Sub-Center, a farm's output (potato and wheat) was fully stacked in the rooms of the quarter meant for residential purpose.

Delivery and Labour Room Availability

Delivery/ labor room is a critical area in the Sub-Centre building and it is available in all the Sub-Centers, however, fully functional delivery room round the clock was available only at the Sub-Center in Baroli. The Sub-Centre in Mazorgarhi was also functional but due to unavailability of ANM at all hours, the village population prefer to deliver at their concerned PHC/CHC. The remaining Sub Centers were not functional for the institutionalized delivery. The reasons as mentioned by ANM for not utilizing the delivery room regularly for conducting deliveries in Sub-Centers were lack of trained supporting staff , poor premises and Non-availability of electricity in the Sub-Centre building. However, as per the information sought from them, all other activities were being performed by them in their Sub-Centers like immunization, ANC, PNC, family planning services, OPD and counseling etc.

Equipment and Furniture

The IPHS provides a detailed list of equipment and furniture essential for conducting surgeries and delivering the assured services in the Sub-Centre. The list include all the furniture and equipment necessary for conducting safe deliveries, immunization, contraceptive services like IUD insertion, etc. The researcher tried to explore the existing number and quality of only some items of the list because it was a difficult task to assess the whole gamut of equipment as per IPHS norm due to

paucity of time. The observation related to important equipment and furniture are depicted in the below table 4.5.

Table 4.5: Availability of Furniture and Essential Medical Equipment at Sampled Sub-Centers of Jawan Block, Aligarh

S.No	Indicator	Baroli	Manzorgarhi	Pilaouna	Tamkoli
1	Delivery Table	Yes	Yes	Yes	Yes
2	Table	Yes	Yes	Yes	Yes
3	Chair	Yes	Yes	Yes	Yes
4	Foot Step	Yes	No	No	No
5	Almirahs	Yes	Yes	Yes	Yes
6	Urine Test Kit	Yes	No	No	No
7	Haemoglobin Colour Scale	No	No	No	No
8	Delivery Kit	Yes	Yes	Yes	Yes
9.	Weighing Scale	Yes	Yes	Yes	Yes
10.	Infant's Weighing Scale	Yes	No	No	No
11	Needle Cutter	Yes	Yes	Yes	Yes

***Source:** Based on Primary Field Survey*

All the Sub-Centers possess examination table/cot, chair, almirah, delivery kits, weighing scales and needle cutters, but some patches of rust was seen on many accessories particularly on the delivery table which may become a source of serious infection for the mothers and their new born babies. Since, needle cutter was also not functional in Tamkoli Sub-Center that's why the ANM was throwing the used syringes in a dust bin during the immunisation day. Hemoglobin colour scale, sterilization equipment was not noted in any of the Sub-Centres. Only one Sub-Centre in Baroli had infant weighing (baby) scale, foot step, and urine test kit. None of the Sub-Centers had green cloth screen facility though it was essential and expected to provide for privacy to the expected mothers.

Drugs Availability

The availability of adequate stock of drugs in all the sub-centres were not satisfactory. The Drug Kit consisting of ORS of 150 packets, tablet IFA (large) of 15,000 tablets, tablet IFA (small) of 13,000, Vitamin A solution (6 bottles of 100 ml

each) and tab cotrimoxazole (paediatric) 1000 tablets were not available in appropriate quantity in any of the Sub-Centers. Only one centre i.e. Baroli had chloroquine tablets and rapid diagnostic kits for malaria. On enquiring the reason from ANMs, it was found lack of regular and proper supply was the evident responsible factor for the unavailability of essential medicines and drugs in the Sub Centers, however, the RNTCP drug for T.B clients was available in all the Sub-Centres as per the requirement i.e. registered number of beneficiaries under respective Sub-Centers.

Manpower

A Sub-Centre is managed by one Female health worker commonly known as Auxiliary nurse midwife (ANM) and one Male health worker commonly known as multi-purpose worker (Male). In order to maintain and enhance the standard of quality care in the Sub-Centres, IPHS in its document has proposed to increase the number of ANMs from existing one to two ANMs per centre. As per the norm, the central government has been bestowed to provide the salary of ANMs and LHVs, rent (if applicable) and contingency, along with equipment kits and minor drugs for diarrhoea, fever, worm, etc. In addition, the central government also implements many National Programmes related to health through the frontline workers at SC level.

Table 4.6: Availability of Manpower at Sampled Sub-Centers of Jawan Block, Aligarh

S.No	Category of Manpower	IPHS Norm	Baroli	Manzorgarhi	Pilaouna	Tamkoli
1	ANM (Essential)	1	1	1	1	1
2	Health Worker (Male)	1	0	0	0	0
3	Safai Karamchari (Part time)	1	0	0	0	0
4	Additional ANM (desired)	1	0	0	0	0

***Source:** Based on Primary Field Survey*

Above table 4.6 exhibit the prescribed norm and the existing manpower at different selected Sub-Centers.

The availability of one ANM per Sub-Center was recorded in all the selected Sub-Centers however, all the four ANMs were overloaded by bestowing the responsibility of at least an additional adjacent SC. In Tamkoli, a retired LHV was deputed in place of ANM who went on maternity leave. The multi-purpose health worker (Male) played a critical role in the implementation of various National health programmes and activities of the sub-centre in other states. However, in UP, their total number is only 1363 thus a ratio of one Health Worker (male) per 113953 villagers. This shows the commitment of the state government towards the health status of its citizen. None of the Sub-Centers had employed any part time *Safai Karamchari* also. The chances for availability of second ANMs as per the desired list of IPHS, was recorded nil in the selected Sub-Centers .

Services

The important assured services that should be made available at the Sub-Centers include all preventive services like immunization, ANC, PNC, prevention of malnutrition; promotive services like family planning services and counseling, few curative services like common childhood diseases and general ailment of villagers and referral services as and when required.

Population Coverage

The average population covered by Sub-Center was 8300 persons with the number going up to 10014 at SC in Baroli and the average number of Sub-Centers per PHC was 6. Average number of villages under Sub-Centers was as per the IPHS norm, however, the coverage or spread of population per Sub-Centers, which was far higher than the prescribed norm, requires immediate correction for better service provision to the villagers.

MCH and Family Planning Services

Maternal and child health services at the Sub-Centre level essentially included ANC, PNC, new-born care, child care including immunization and family planning services. ANC which includes early registration of all pregnancies ideally in the first trimester, minimum three antenatal checkups, nutrition & health counseling and identification of high-risk pregnancies was provided by all the selected sub-centres but none of them provided full ANC as per the IPHS norm. Some of the deviations from the norm were as follows; providing lesser number of IFA tablets due to its

unavailability, not accompanying expected mother to PHC/CHC doctor for their 3rd visit, missing one or two essential laboratory investigations etc.

Other services of MCH like PNC, child immunization, adolescent health, OPD services, and school health services for maintaining health & personal hygiene and providing health education to school children were also provided at all the selected Sub-Centers. OPD services were provided every week on Fridays and school health programme were organized on monthly basis, however, as per the narratives of overburdened ANMs, (due to their work load) they were not able to perform OPD services and school health activities on the prescribed days. As per the IPHS norm, OPD services should be provided to the villagers on daily basis.

All the four Sub-Centers were functioning as DOTS centers and also provided family planning services related to counselling for adopting appropriate family planning methods. On asking the concerned ANMs, it was found that they only counsel the mother for using FP services whereas in rural society, maximum of the family decisions were taken by the male counterpart. Shortage of condoms at all the Sub-Centers was also reported by ANMs.

Other Functions and Services Performed

Village Health and Sanitation Committee (VHSC)

As per the document, SC was accountable to the *Gram Panchayat* through the Village Health and Sanitation Committee (VHSC). The main objective of this committee was to help the ANM in preparing the Sub-Center's action plan and help her in planning and implementing various activities at village level. According to the NRHM guidelines, the members of VHSC should be the ANM, ASHA, PRI representatives, women, and representatives of backward social classes, NGO, and self-help groups (Husain, 2011).

All the four Sub-Centers have constituted VHSC, however lack of active participation and restricted involvement of PRIs and other members in VHSC's the activities were reported by all the ANMs. They also reported that VHSC meetings were not being conducted regularly and inadequate utilization of funds was also reported at Sub-Center in Tamkoli. On probing the reason, it was surprising to know that since the ANM of Tamkoli was on deputation, VHSC cannot withdraw any amount from the joint account till the original ANM joins her duty after long

maternity leave. It was also observed that the senior ANMs were capable enough to coordinate with PRIs and were able to draw amount as per Sub-Center's need whereas the ANMs newly selected felt hesitant in establishing professional relationship with other members of VHSC and thus they were not able to channelize the untied[1] fund for meeting the needs of their Sub-Center. The reasons for this hesitation was manifold for e.g. at Manzoorgarhi, cleaning / sweeper expenses were being paid by the ANM in place of drawing the amount from the available untied fund. When asked to express the reasons, she said

> *"It's better to pay myself than to ask from the Pradhan having criminal background. Last time when I asked for a little amount, I was scolded and threatened to face the consequences"*

However, the relationship between ANM and Pradhan at Tamkoli, Baroli and Pilouna was cordial.

While interacting with *Pradhans/* PRIs representatives, lack of proper understanding was observed amongst them as well as other health functionaries at Sub-Center level regarding the role and responsibility of VHSC, for utilizing untied and other types of fund etc. In Baroli's, VHSC paid ₹ 150 to ASHA for attending VHSC meeting where as in Pilouna, whole fund was utilised in purchasing furniture for the Sub-Center from untied fund. Both type of expenses was against the prescribed norm with respect to utilization of untied fund.

None of the PRIs attended any type of orientation program related to utilisation of untied fund. They also conceived that since this fund was released by MOIC of CHC to Sub-Centers and VHSC, thus ANM was more responsible for the proper use of the fund. Thus they never intervene in utilization of the fund by them. *Pradhan* of Baroli *panchayat* also claimed that

> *"She always pressurized me through the MOIC of CHC/PHC for withdrawing amount for unnecessary things. What should I do?"*

It was also observed that both ANMs as well as *Pradhans* were not interested in seeking sincere involvement of ASHAs in VHSC especially on use of untied funds. She even didn't know the name of the members of VHSC other than ANM and

[1] NRHM, for strengthening of sub-centres, has a provision of untied funds of Rs. 10,000 per SC. This fund has to be utilized for local needs and maintenance of SCs.

Pradhan. It was also reported that the members have differences between them in decision making.

There was no mechanism for community based monitoring of the Sub-Centers. None of the PRI representatives were oriented by MOIC or any other institution regarding their role as a monitor of the Sub-Center. ANMs were also not properly sensitized in this regard. All of them reported to the MOIC as their monitor and supervisor and were accountable to him only. Involvement of the community in monitoring and evaluation process was also very poor.

Field Visit

Field visit and home care were undertaken by ANM along with the ASHA of the concerned village. They also attended home deliveries if informed on time but due to the unavailability of transport, proper residence facility within the premise of Sub-Center and having residence far from the vicinity of the village, ANM were not able to attend home deliveries at the time of heavy rain or late night hours.

Village Health and Nutrition Day (VHND)

Village Health and Nutrition Day (VHND) is an important initiative under NRHM to improve access to maternal, newborn, child health and nutrition (MNCHN) services at the village level. It is organised every month in every village of the state to provide an effective platform for comprehensive primary health care services at the doorstep of the villagers. Role of ANM and ASHA is well defined in the policy document.

VHNDs are being conducted regularly at all the Sub-Centers, however many lacunas were observed in the package of services delivered during health days on every 1st and 3rd Wednesday of the month at Manzorgarhi and Tamkoli Sub Center respectively. During VHND, only ANC and vaccinations services were provided to expected mothers and children respectively. ANC was also restricted to giving TT vaccines and distribution of IFA tablets only. ANMs were able to take BP but none of the ANC beneficiaries were diagnosed for haemoglobin and urine infection and neither any equipment for performing those tests were available at the Sub-Centers.

No individual or group counselling/meeting by ANMs and ASHAs on MCH and nutrition issues were conducted in front of the researcher. On the other side, both

of them jot down the minutes of the meeting in their register which unfortunately never seen the day of light.

Another lacuna was the large geographical area and their population to be covered on a single VHND. It was impossible for ASHA and AWW of Baroli panchayat, having a population of more than 10000 to mobilize and accompany each and every expected mothers and children to SC for availing benefits of the VHND services. Thus, ANM had to cover the remaining areas during outreach session. This seemed to be an aberration, as it diluted the entire concept and objective of VHND described in the document.

Undoubtedly, VHND was an opportunity for developing cooperation among ANM, ASHA and AWW in promoting health awareness at the community level, but, it further needs to be strengthened to ensure community participation and better utilisation of the available services at SC level.

Training of ASHAs and coordinating their work is one of the important activities of the Sub-Centre. In all Sub-Centers coordination and supervision of activities of ASHA were being performed. Records and registers are properly maintained in all the selected Sub-Centers.

Monitoring and Supervision activities

IPHS norm prescribes doctors (from PHC/CHC) visit to Sub-Centers once in a month for proper supervising and monitoring the activities performed and records maintained at Sub-Center level. One Health Assistant (female) commonly known as Lady Health visitor (LHV) and one Health Assistant (male) located at the PHC level are also entrusted in the IPHS document with the task of supervision of all the Sub-Centres under the PHCs. Health Assistant /LHVs visit was reported nil in all the Sub-Centers whereas regular visit of doctors (from PHC/CHC) to Sub-Centers once in a month was reported at Sub-Center of Baroli only.

Training of ASHAs and supervision of their work is an important activity of the Sub-Centre which was undertaken at all the selected Sub-Centers.

Quality Care

Quality control can be ensured by sensitizing villagers about different services available at the facility and by enhancing skills of the manpower at Sub-Center level

through regular skill development and on the job training. According to IPHS norm, regular monitoring should also be done by internal (MOIC of PHC and CHC) or external agencies (VHSC). In order to ensure quality of services and patient satisfaction, it was essential to encourage community participation. To ensure accountability at the Sub-Centre, the NRHM initiated the necessity of Citizen's Charter in all Sub-Centres.

All of the Sub-Center's ANMs indicated that the MOIC visited their Sub-Centers and verified records every month. But none of them reported the involvement of the members of VHSC in monitoring the Sub-Center's activities. None of the selected Sub-Centers have Citizen's Charter board at the time of visit.

These days, the Sub-Centers has become a center for providing only ANC and immunisation services and lacks in playing its role in institutional deliveries. The utility of Sub-Centers for curative purposes has tremendously reduced after implementation of NRHM. This was attributed to increased community based activities in the villages by ANM and other front line workers, shortage of ANMs, shortage of drugs and maximum referrals to PHCs for minor ailments etc. Thus, Sub-Centers were used mostly for disseminating IEC materials and office space for ANMs (Grassroots Research and Advocacy Movement, 2013).

The Primary Health Center (PHC)

In India, the Primary Health Center (PHC) is the keystone of rural healthcare and is considered as the primary unit of public health delivery system. It is the first contact point between villagers and doctor. In addition, these PHCs are responsible for delivering quality care consisting of promotive, preventive, curative and rehabilitative care at an affordable cost in rural areas (Starfield, 1994). As per the norms laid down for PHC by IPHS, one PHC should have 4-6 beds for patients and should cater to a population of 30000 in plain regions and 20000 in hilly, tribal and difficult regions. In UP, average population served by 1 PHC is 42013 whereas at national level it is 34641 in 2011.

It must be realized that simple availability of PHCs as per the population norm is not sufficient for an effective delivery of the health services. PHC should possess essential infrastructure, staff, equipment and supplies etc. Due to several flaws and inadequacies, our PHCs failed to cater the health need of the

villagers leading to its meagre performance. In this context, it needs a close scrutiny about the existing services being delivered under NRHM by the state at cluster of *Gram Panchayats* level through PHCs. For this purpose, 2 PHCs i.e. Baroli and Cherat have been selected from the sample block Jawan of Aligarh district.

Seeking data related to PHC and its staffs, both quantitative and qualitative methods were used. The information was collected at PHC level semi-structured schedule and focused interview of MOIC and the key health personnel of the selected PHCs.

This section presents the status of the 2 PHCs surveyed with respect to the availability of essential infrastructure, manpower, equipment and furniture, services and other activities performed by PHCs.

Table 4.7: Geographical Location and Population Covered of the Sampled PHC of Jawan Block, Aligarh

S.No	Indicator	Name of PHC	
		Baroli	Cherat
1	Type of PHC	A	A
2	Distance from CHC	9.1 km	6 km
3	Total number of Sub-Centers under PHC	05	05
4	Name of Sub-Centers under PHC	Tamkoli, Songra, Baroli, Nagla Barola	Cherat, Cherat (Cheb), Manzoorgarhi, Kasthali, Jangalgarhi
6	Total number of Villages under PHC	Tamkoli - 03 Songra – 03 Baroli- 05 Barola- 04	Cherat - 04 Cherat (Cheb)- 03 Manzoorgarhi- 06 Kasthali – 04 Jangalgarhi- 06 Total Villages: 23
7	Total covered population	44,281	42,909
8	Distance from the remotest village(approx.)	12.5 km (approx.)	9.5 km (approx.)

Source: *Based on Primary Field Survey*

As per IPHS document, PHC may be categorised into two types on the basis of delivery case load, i.e. type A PHC where delivery load is less than 20 per month, and type B PHC having delivery load of 20 or more deliveries in a month. Both the selected PHCs were from Type A categorisation. According to the norm, PHC acts as a referral unit for 6 Sub-Centres and refers cases to CHC and other tertiary public hospitals at district and sub-district level. However, total Sub-Centers covered by PHCs at Baroli and Cherat were 5 and 6 respectively. The average population covered by each PHC was approximately 43595 and the distance from the remotest village from Baroli and Cherat PHCs was 12.5 kms and 9.5 kms respectively. Both PHCs were accessible by public transport facility and by all-weather road facility.

Infrastructure

Physical Infrastructure

Although there was a huge increase in the number of institutional deliveries but the physical infrastructure still strained. Below table 4.8 presents the availability of selected physical infrastructural facilities at each PHCs. Both the PHCs are functioning from their own building in good condition with well plastered walls and smooth flooring with boundary wall along with a main gate. Infrastructure of both the PHCs were disabled friendly due to availability of ramp with proper support facility.

Both centres had a prominent and legible display boards at the entrance. Registration counter was also available however, separate counters for procuring contraceptives, ORS packets, etc. was not available in any of them. Baroli had 6 in-patient beds facility in the PHC whereas Cherat had only 5. The condition of the beds were horrible and that too without pillow and bed-sheet. Drug store with limited number of medicines without any information about the balance of drug was observed at both the facility. The researcher was also not able to locate complaint and suggestion box in Baroli PHC.

Table 4.8: Available Physical Infrastructure at the Sampled PHCs of Jawan Block, Aligarh

S.No	Indicator	Name of PHC	
		Baroli	Cherat
1	Own Government Building	Yes	Yes
2	Electricity Supply	No	Yes
3	Continuous Water Supply	No	No
4	Functional Generator	Yes	No
5	Functional Inverter with Battery	No	Yes
6	Running Vehicle / Ambulance	No	No
7	Number of Beds	06	05
8	Toilet Facility	Yes	Yes
9	Separate Toilet facility for Women Beneficiaries	No	No
10	OPD Room	Yes	Yes
11	Fully equipped Labour Room	No	No
12	Minor OT	No	No
13	Laboratory Facility	Yes	Yes
14	Facility for Food	No	No
15	Medicine Shop within Boundary wall	No	No

Source: *Based on Primary Field Survey*

Provision of immunization to children and pregnant women is one of the important functions of the PHC. For the storage of vaccines at specified temperature in refrigerators/ freezers as well as for the operation of many other types of equipment besides lighting purpose, PHCs need electric supply or availability of a generator/ inverter. However, Electricity was available in all parts of the PHC building at Cherat whereas Baroli PHC depends upon sunlight and power generator.

The availability of laboratory facilities in PHC is crucial to test blood and urine of women seeking antenatal care as well as for the diagnosis of RTI / STI among men and women. Both PHCs surveyed in the block had laboratory facilities.

In PHCs where mostly women procure services like ANC, delivery, PNC, IUD insertions etc., requires at least clean toilet facility with in the

premises. But both the PHCs did not had functional toilet facility for beneficiaries which was considered necessary for conducting ANC care of expected women.

Labour room, a critical facility required at PHC level for increasing the number of institutional delivery was available at both the PHCs. Regarding waste management, both PHCs dumped the hospital waste in a deep pit. Syringe needles were disposed through the use of needle cutters available in all PHCs and Sub-Centres. Both PHCs also had computer facility and were in working condition as per reported by concerned MOIC.

On examining the availability of major infrastructure facilities, both the PHCs were having their own building, labour room, laboratory facilities and inpatient beds, but the facilities of toilet, piped drinking water, functional vehicle, medical shop, and canteen were unavailable (Table 4.8). Under the NRHM, all PHCs (especially 24x7 Mother and Child Centres) should be ensured with continuous piped water supply.

Residential Facility

Decent accommodation with all the amenities s likes 24-hours water and electricity supply etc. should be available for Medical Officer, nursing staff, pharmacist, lab technician, and other staffs. If the accommodation cannot be provided due to any reason, then the staff may be paid house rent allowance, but in that case they should be staying in near vicinity of PHC so that they are available 24 × 7, in case of need.

Both the PHCs had residential facility, but there was a shortage of quarters to accommodate all the doctors and staff nurses of the facility. The quarters were abandoned due to its detrimental quality and lack of basic amenities necessary for a decent living. At Baroli PHC, one quarter was used as cattle shed for the buffalos of their concerned Pradhan. The wall was used for drying dung cakes.

According to a report, less than 25 per cent of PHCs in the state have a residential facility with all amenities for medical officers. Out of the available quarters, hardly $3/4^{th}$ of the quarters are occupied by medical officers. In case of Pharmacists, only 36 percent of PHCs have residential accommodation and all are occupied.

Manpower

The IPHS has framed the minimum requirement for manpower based on the assumption of 40 patients per doctor per day, the expected number of beneficiaries for MCH and FP and about 60 percent utilization of the available indoor/observation beds (4-6 beds). The requirement will be higher as the utilization of services goes up from one category to another category of PHC. The norm suggests and sanctions 3 Medical Officers (one female medical officer and one from AYUSH). The availability of at least one Medical Officer (M.O) posted at PHC is essential.

At the time of survey, on an average, the PHC to medical officer ratio was 1: 1 in the block as well as in both the PHCs. None of them were having any female MOs.

Table 4.9: Availability of Manpower at Sampled PHCs of Jawan Block, Aligarh

S.No	Category	Sanctioned as per IPHS Norm	Baroli PHC	Cherat PHC
			In position	In position
1	Medical Officer (MBBS)	01	01	01
2	Medical Officer (AYUSH)desired	01	00	00
3	Accountant cum Data Entry Operator	01	01	01
	Pharmacist	01	01	01
4	Pharmacist AYUSH(desired)	01	00	00
5	Nurse mid wife (Staff-Nurse	03 +1	01	01
6	Health Worker (Female)	01	00	00
7	Health Assistant (Male)	01	01	00
8	Health Assistant (Female)	01	00	00
9	Health Educator (desired)	01	00	00
10	Lab Technician	01	01	01
10	Cold Chain & Vaccine Logistic Assistant (desired)	01	00	00
11	Multi Skilled Group D Worker	2	01	01
12	Sanitary Worker cum Watchman	1	01	01
	Total	**18**	**08**	**07**

Source: Based on Primary Field Survey

Among the nursing and paramedical personnel, IPHS prescribes a minimum of 3 nurses/ Midwife for providing services on 24X7 basis in the PHC. According to the survey, the ratio of Nurse/Midwife was 1: 1 at both facility and health assistant (male) was available in PHC at Baroli only. Among other paramedical staff, one pharmacist (allopathic), one lab-technicians were also available at both PHCs. None of the PHCs had health educator, ophthalmic assistant, cold chain & vaccine logistic assistant, and health worker (female).

Equipment and Furniture

As per IPHS, the equipment provided to the PHCs should be adequate to provide all the assured services in the PHCs. This include all the equipment necessary for conducting safe deliveries, immunization, contraceptive services like IUD insertion, etc. In addition, equipment for first aid and emergency care, etc. should also be available. The essential equipment in PHCs and their availability are listed in the below table no. 4.10.

Labour room, normal delivery kit, standard surgical kit for minor procedures, were available in both the centres. The PHCs were considered as the main points for storage and distribution of vaccines. However, at the time of visit, essential cold chain equipment i.e. refrigerator at PHC in Baroli and Deep Freezer at PHC in Cherat were found non-functional due to lack of electricity and minor defect respectively.

Figure 4.10 Availability of Equipment and Facilities at Sampled PHCs of Jawan Block, Aligarh

S.No	Equipment & Facilities	Baroli PHC	Cherat PHC
1	Functional Labour room	Yes	Yes
2	Labour table	Yes	Yes
3	Delivery kits	Yes	Yes
4	Sterilization equipment	Yes	Yes
5	Attach toilet facility	No	No
6	Running water	No	No
7	Electric supply	No	Yes

8	Power backup	Yes	Yes
9	Facility for oxygen	No	No

Source: Based on Primary Field Survey

Services Availability

PHCs are expected to provide comprehensive and effective primary health care to the village community covering preventive, curative and rehabilitative primary health care besides regular national health programmes. The list of assured services available in the PHC include medical care, MCH, MTP, FP, diagnosis and treatment of RTI/STI and other services such as school health services, quality care etc.

Medical Care

Medical care includes provision of OPD services, 24 X 7 emergency services, inpatient services and referral services as and when required. Both the PHCs provided regular OPD services while average OPD attendance in the last one week was approximately 281 patients per centre however, the number of beneficiaries varies from season to season. The availability of inpatients at the time of visit was abysmally low. Only 2 inpatient at both the PHC was reported undergoing treatment whereas the average number of patient admitted in both the PHCs in a month was 36 only.

Table 4.11 Availability of Medical Services in Sampled PHCs of Jawan Block, Aligarh

S.No	Type of Services	Baroli PHC	Cherat PHC
1	OPD Services	Yes	Yes
2	No. of OPD patient in a week	328	234
3	24X7 Emergency Services (for wound, fracture, burns only)	Yes	Yes
4	Inpatient Services	Yes	Yes
5	No. of admissions per month	32	40
7	Referral Services	Yes	Yes
8	No. of referrals in a week	23	13

Source: Based on Primary Field Survey

Availability of 24X7 emergency services is a critical component of NRHM which was available in both the PHC, however the quality management of emergency service provided in the absence of MO and Staff Nurse, who were not residing in PHC was an another question which may be examined. The list of emergency services available at both PHCs were also limited to wounds and burns. Cases of fracture, animal bite, snake bite, poisoning etc. were always referred to CHC/FRC after providing primary medical care.

MCH Services

Reduction of IMR and MMR is one of the important goals of NRHM. Strengthening MCH related care services is a prerequisite for the reduction of IMR and MMR. Provision of ANC, intra-natal care, PNC, new born care, child health care including immunization and FP services form the basic MCH services.

ANC is universal service provided in all PHCs of the state. Another priority of NRHM is to provide delivery services including assisted deliveries at 24X7 basis in all the PHCs. Both the PHCs provided delivery services, however, none of the caesarean delivery was reported. Special focus is required to extend the available delivery services into 24-hour delivery services in these PHCs. For child immunization, services were available on fixed immunization day and national immunisation day in both the centres. Medical Termination of Pregnancy (MTP) was not provided at any center due to lack of skilled personnel, special equipment and a well-equipped labour room /operation theatre. NSV type sterilization was also provided at both the PHCs. It was also observed that none of the PHCs were either providing AYUSH services to the community nor hired any personnel in their center from AYUSH stream.

Table 4.12 Availability of MCH Care and Other Related Services in Sampled PHCs of Jawan Block, Aligarh

S. No	Type of Services	Baroli PHC	Cherat PHC
1	ANC services	Yes	Yes
2	Delivery Services	Yes	Yes
3	No. of Normal Delivery conducted in a month PHC	22	18
4	No. of Caesarean Delivery conducted in PHC	Nil	Nil

5	PNC services	Yes	Yes
6	Child Immunization	Yes	Yes
7	MTP services	No	No
8	Management of RTI/STI	Yes	Yes

Source: Based on Primary Field Survey

Other Functions and Services Performed

Rogi Kalyan Samiti (RKS)

Another innovative intervention under NRHM for up-gradation of health facility and providing quality care along with people's participation, accountability & transparency is Rogi Kalyan Samiti (RKS). It is a registered society comprising members from NGOs, local elected representatives, and government officials. They acts as a part of management structure for providing health care and delivery services at PHC and CHC level.

While conducting focused interview with MOIC of PHC and CHC, it was reported that RKS has been formed and registered in all the PHCs & CHCs. Last meeting of the RKS was conducted at CHC of Jawan in the month of October 2014 i.e. four months before the visit. It was a joint meeting of RKS from all the PHCs and CHC. As per the guidelines, the meeting of RKS should be held at least once per quarter. Turnout rate of the member was also low in the meeting. The main functions reported and performed by the RKS as per MOIC of PHC and CHC were activities related to renovation of physical infrastructure, provision of medicines and buying equipment. Other activities like up gradation of services, training of manpower, raising funds, and availability of suggestion box at PHC level for grievance redressal were not performed at any PHC and CHC level. It may be inferred that all the RKS are working as a 'purchase committee' of the health system at block level.

While interacting with the OPD and IPD patients of PHC, only 1 patient was having the knowledge of RKS existence however, the role and function was not known to that patient also. Thus low awareness and lack of information disseminated among the patient will hamper in achieving the objectives of the RKS formed under NRHM.

Monitoring and Supervision Activities

Under NRHM, special emphasis has been given on monitoring and supervision of services both at the PHC and sub-centre level by the PHC medical officer. Regular meetings and periodic visits at Sub-centre was reported and conducted more than twice in a month by the MOIC of both the PHCs. The monitoring of ASHA was also universal in both the PHCs and the MOIC (CHC) visits the PHC once in a month and verify reports and records.

However, the monitoring and supervision of school health activities was not stated by the MOIC of both the PHC.

Essential Laboratory Services

As per the prescribed IPHS norm, the essential list of laboratory services available for the village community at any PHC includes blood test, urine test, stool test, pregnancy test, sputum test, smear examination for malaria. Wide variations as per the norm, were reported in both the PHCs. The available laboratory services were only blood test and pregnancy test kit and for the rest essential services they refer to CHC as and when required. They also reported that maximum of the client for laboratory test were pregnant women.

The MOIC of both the PHCs with whom the researcher spoke with claimed that hardly any PHC of Aligarh with its own resources was capable enough in conducting all the 9 tests prescribed by the IPHS norms. Thus immediate attention under NRHM was required in stepping up of all the PHCs in providing all the essential laboratory services.

Community Health Centre (CHC)

In the three tier health care delivery system, Community Health Center (CHC) is considered as secondary level facilities. Generally, it is located at the block headquarter, catering to the needs of about 120000 population in non-hilly areas and 80000 in hilly areas. According to the norm, CHC cover about 4 PHCs and about 20 Sub-Centers of the block, however, Jawan CHC cater the need of 211390 population and covers 4 PHCs and 30 Sub-Centers which is above the prescribed norm. Though the norm for population coverage by a CHC has been prescribed, no criterion as such has been laid down for geographical location while establishing a CHC. In practice, the government followed the norm related to geographical location i.e. one CHC in a block without emphasizing on its total population.

CHCs are 30-bedded facilities with Operation Theater and Labour Room. These CHCs are redesigned by NRHM to be the First Referral Unit (FRU) for the cases referred from the PHCs, Sub-Centers and other frontline workers. To achieve this objective, the CHCs were designed to be equipped with four specialists in the areas of surgery, medicine, gynaecology and paediatrics, thirty beds for indoor patients, labour room, operation theatre, X-ray machine, pathological laboratory, and proper power backup etc. along with the required manpower.

Infrastructure

According to the IPHS, a CHC must have minimum essential physical infrastructure i.e. 30 indoor beds with an emergency / casualty rooms, an operation theatre, a labour room, and having facility of X-ray, blood storage, pathological laboratory for efficient service delivery in a CHC. The table 4.9 below explicits the availability of essential physical infrastructure facility at Jawan CHC.

The inpatient services with separate ward for male and female patients was available in the hospital but there was no privacy due to lack of curtain and restriction of males in entering the female ward. Emergency / casualty room was available but was not functioning in the centre. Operation theatre and labour room was also available but blood storage facility was absent in the CHCs.

Another essential infrastructure of the hospital are its basic amenities. Table 4.10 provides details on availability of amenities and ancillary facilities like availability of electricity supply, power backup at the time of emergencies, computer with internet facility, telephone facility etc. The CHC had electricity facility in all the parts of the building. A diesel generator for emergency purposes was also available. Telephone, four computers along with UPS & internet facility and a vehicle for transportation was also provided to the CHC.

Furniture and Equipment

CHC was well equipped with essential equipment and furniture in working condition. All the essential important equipment as per the prescribed norm like beds, examination table, delivery tables etc. were available in the centre. Adequate number of stretchers, saline stands and almirahs were also available in the CHCs. According to IPHS norms, 15 types of surgical equipment sets are prescribed for CHCs.

However, It was a cumbersome and time consuming to verify all the furniture and equipment reported to be available by the HO and MOIC of the center.

Services

As per IPHS norm, the list of assured services in the CHC include routine and emergency care in surgery, medicine, obstetrics and gynaecology and paediatrics in addition to all services under the National health programmes. Table 4.13 provides the availability of assured specialist at CHC in Jawan.

Table 4.13 Availability of Assured Services at Sampled CHC of Jawan , Aligarh

S.No	Assured Services	CHC at Jawan
1	Medicine	Yes
2	Surgery	No
3	Obstetrics & Gynaecology	Yes
4	Paediatrics	No
5	Ophthalmology	No

The list of other assured services at CHCs level also includes services for new-born children, family planning services, abortion and RTI / STI services (Table 4.13). The 24 hour emergency services was available in the CHC. However, emergency delivery services required some improvements. Newborn care services, family planning, safe abortion services were also available. RTI/STI treatment was also available but the CHC lacks Voluntary Counselling and Testing Center (VCTC).

Table 4.14: Availability of Specific Assured Services at Sampled CHC of Jawan, Aligarh

S.No	Assured Services	Availability at CHC
1	Emergency Services(24 hrs)	Yes
2	Delivery Services(24 hrs)	Yes
3	New born care	Yes
4	Family Planning	Yes
5	Safe abortion & MTP	Yes
6	RTI/STI Treatment	Yes
7	VCTC	No

Source: Based on Primary Field Survey

In order to cater all assured services, CHCs should be well equipped with suitable investigation and diagnostic facilities. For investigation, X-ray and ultrasound machine was available in the center but the facility was not provided to the needy patients at the time of visit. On enquiring upon the reason, HO stated that the radio-active material required for the machines was out of stock from last two months. Only ECG machine was functioning properly. The CHCs was equipped with good functional laboratory test facility along with necessary reagents, glassware and facilities for collection and transportation of samples.

Table 4.15: Availability of Other Assured Services at Sampled CHC of Jawan, Aligarh

S.No	Other Assured Services	Availability at CHC
1	ECG	Yes
2	X-Ray	Not Functional
3	Ultra-Sound Machine	Not Functional
4	Blood Storage Facility	Yes
4	Laboratory Facility	Yes
5	Referral Transport	Yes

Source: Based on Primary Field Survey

Manpower

IPHS explicitly mentioned the list of minimum manpower to be employed at every CHC. According to it, every CHC must have one specialist from the areas of medicine, surgery, obstetrics & gynecology and pediatrics. In addition, the document also prescribed other additional posts such as eye surgeon, anesthetist, and dental surgeon on contractual basis. The IPHS also defined the minimum essential qualification for each category.

Table 4.16 Number of Medical Staffs positioned at Sampled CHC of Jawan, Aligarh

S.No	Personnel	Sanctioned as per NRHM	Positioned at CHC
1	MOIC	1	1
2	Public Health Specialist	1	1
3	General Surgeon	1	0
4	Physician	1	1
5	Obstetrician & Gynaecologist	1	1
6	Paediatrician	1	0
7	Anaesthetist	1	0

8	Dental Surgeon	1	0
9	General Duty Medical Officer	2	1
10	General Duty Medical Officer(AYUSH)	1	1
	Total	**11**	**06**

Source: *Based on Primary Field Survey*

A total of 06 medical staffs were placed at CHC out of a total prescription of 12 by IPHS norm. Specialist from medicine and obstetrics & gynecology along with MOIC and were working in the facility (Table 4.16). As per the IPHS norms, the gap indicates a requirement of 06 medical staffs consisting of one surgeon, a pediatrician, an anesthetist and a dental surgeon. The CHC also have a couple of general duty medical officers from medicine and AYUSH stream.

Nursing & Para-medical Staff

According to IPHS, sufficient para-medical staffs of all categories (Staff Nurses, ANMs, pharmacists and lab technicians etc.) should be available in the CHCs. Availability of para-medical staff is as essential as the availability of specialist doctors. There were only 4 Staff Nurse positioned in the CHC whereas 4 post were vacant due to the retirement of Nurses in the year 2012.

Table 4.17: Number of Nursing & Paramedical Staffs positioned at Sampled CHC of Jawan, Aligarh

S.No	Personnel	Sanctioned as per NRHM	Positioned at CHC
1	Staff Nurse	10	4
2	Pharmacist	1	1
3	Pharmacist – AYUSH	1	0
4	Lab Technician	2	1
5	Radiographer	1	1
6	Dietician	+1	0
7	Ophthalmic Assistant	1	0
8	Dental Assistant	1	0
9	Cold Chain & Vaccine Logistic Assistant	1	1
10	OT Technician	1	1
11	Multi Rehabilitation/ Community Based Rehabilitation worker	1	0
12	Counsellor	1	0
13	Registration Clerk	2	1
14	Statistical Assistant/ Data Entry Operator	2	1

15	Account Assistant	1	1
16	Administrative Assistant	1	0
17	Dresser	1	0
18	Ward Boys	4+1	3
19	Driver	1	1
	Total	**35**	**16**

Source: Based on Primary Field Survey

NRHM was launched to improve accessibility of health care services and to operationalise this objective NRHM has made significant improvements in health care service delivery particularly in infrastructure as well as manpower in rural health facility. It was not merely policy rhetoric, in fact, NRHM was remarkable in introducing a guiding document to continuously evaluate and upgrade health care services in rural health facility known as IPHS norms. However to believe that these IPHS norms are universally followed in all the rural health centers would be deceptive as a matter of fact there exist huge disparity in compliance of these IPHS norms and the present study has manifested many of these disparity. The following are the major bottlenecks found in the study on various dimensions like manpower, accessibility of the health facility, manpower, etc. categorically at Sub-Centers, PHCs and CHCs level.

SUB CENTER's BOTTLENECK

Access to Sub Center (Location)

- There are fewer Sub-Centers sanctioned than are required as per the population norm.
- The Sub-Centers are unevenly distributed. In some places one Sub-Center is catering a population of 10000 whereas another SC in the adjacent village is catering only to 5500 population with the same number of manpower.
- Local, political and group influences while selecting the place for the establishment of the Center.
- The ANMs of Sub-Centers established in larger villages finds it difficult to cater to a population of over 5000. Sometimes the population can be as high as ten thousand like in Baroli. This leads to a poor Sub-Center to population ratio though in fact the villages were all adequately covered geographically.

- Some Sub-Centre to population ratio was adequate but it is located poorly at the edge of the village- often some distance away in an isolated spot or often near a cremation ground.
- Sub-Center at Tamkoli was at center of village but the road connection was poor and not aligned to economic activity and social life. People would find it easier to combine a market visit, with a visit to the Sub-Center.

Gaps regarding infrastructure, equipment and supplies.

- Maximum Sub-Centers don't have a proper government building conforming to minimum requirements. Some of them operate from rented buildings and some share spaces with other government buildings like AWW centers etc.
- The equipment is deficient in one or more essentials. Usually these equipment got used up or being in a state of despair needs urgent replacement.
- The drugs provided by the government was quite insufficient to manage the usual problems that the ANM needs to manage.

Gaps regarding Manpower and their job profile/description

- Mostly it is understood that ANMs' list of jobs is unusually long and impossible to achieve. Simultaneously, most studies show that in practice her time is spent on only a much smaller set of tasks. These are primarily concerned with immunisation and antenatal care. Other tasks allotted to her, like assistance at child-birth/deliveries and IUD insertion, take much less of her time due to much lower frequency of performance. A task that ANMs perform, that is under reported is to attend to people coming for treatment for common illnesses. Though they treat only a small part of the illness in the community, it could still mean a few cases every day that she provides curative care for.
- The male worker's tasks are even more nebulous. Most often, they are not even available – their posts are lying vacant. One of their task is to accompany the ANM to the immunisation camp, and help her with the supplies. The other is in making slides for different diagnostic purposes. Thus of the two Sub-Center Workers – one (ANM) has adequate work but can do only a part of her job description. The other is not even clear about her job description.

- Lack of Skills in ANM- It was observed during Sub-Center visit that none of the ANM knew how to insert IUDs and thus their equipment for the same lies unused. Thus, it seemed that she did not had the required skills and thus reported/blamed other factors like lack of equipment and medicines.

- Lack of quality supervision- Due to lack of on the job training and support in real sense. It was observed that the supervision provided by MOIC becomes more an act of maintaining discipline than of providing on-the-job training and support. Even the supervisors lacks proper refresher training and were unable to perform leadership role.

- Unfair practices/corruption- Failure to receive travel, stationary and other expenses by the peripheral staffs of Sub-Centers leads to heart-burn and resulting in a major de-motivating factor. Several times they have to sign a voucher saying that she had received a certain amount of money for travel and other expenses and she was handed only a part of the amount.

- Gender Issues: i. Mental harassment by the Pradhans and the other dabang personalities of the community

  ii. Another major problem was that of walking on the tight rope between family and profession. It was found in the survey that the ANM's family was reluctant in shifting to remote areas and without the family, child care support was impossible. Also her children's education requires urban settlement which was quite impossible as per her nature of job. Staying alone in a village, without male companion is also a major hurdle. These factors restrict ANMs coming early in the morning and staying till late night thus limiting the villagers' access to her services.

- Lack of Community Support: After household and facility survey at village level, it was found that the services that the Sub-Centers was delivering had traditionally not been the community's priority. No one from the community showed priority to immunisation against diseases that they have never seen like diphtheria, whooping cough or tetanus. Even antenatal care services needs explanation by ASHA & ANM since it has made so little difference to maternal

mortality in public perception. On the other hand. On the other hand, the people experience fevers and several types of infections for which the services available at Sub-Centers appears irrelevant. Due to the IEC activities, the community accept the services of the ANM however they perceive ANM as a person placed by the government, for the government and also responsible to the government. Therefore, community support is not a matter of changing villagers' behaviour to receive the services being delivered rather it is more important to change the services being delivered to be responsive to what people think they really in need.

Possible Alternative Strategies

- Sub-Centers should be able to respond to a much wider range of emergencies and curative needs and provide at least very good first aid.
- In many places the number of Sub-Centers is low in one district but for the state as a whole the number of Sub-Centers is appropriate. This sort of misdistribution also occurs at block level within the district like Baroli catering a population of more than 10000 whereas Tamkoli providing its services to the total population as per the norm. Thus redistribution of Sub-Centers should be made with the help of GIS software.
- If the Sub-Centers is poorly performing then realignment to a better convenient location with the help of villagers may also be done.
- Two ANMs per Sub-Center, if positioned, would reduce the geographical area that each has to cover and access to the ANM's services become easier for villagers. However, the role of 2nd ANM is not prescribed in any norm but it should be ensured that they go to the field on alternate days so that OPD services on every day may be provided to the villagers as per the IPHS norm.
- The use of Mobile Units with curative services, visiting difficult terrains and under-served villagers on a fixed schedule with prior notification could be an additional strategy to reduce the gaps in outreach service delivery at village level.
- Sub-Center is considered as site for skilled birth attendance or institutional delivery, but, due to absence of proper referral transport and emergency

obstetric care, it can't be recognised as a site for institutional delivery among villagers.

PHC's BOTTLENECK

Of all the health facility surveyed, the poorest performance, as per the norm, was of the Primary Health Center (PHC). The core reason for poor functioning of surveyed PHCs is the problem related to human resource management. The other bottlenecks are discussed below:

Due to epidemiological[2] and social reasons[3], the norm prescribed one PHC per 30000 village population. However, the PHC sanctioned is lesser than the requirement as per the population norm.

Gaps regarding infrastructure, equipment and supplies.

- Both PHCs were functioning from government building but the building did not conform to the minimum standards as per the norm. The essential equipment were also deficient or got used up or being in a state of despair requiring urgent replacement.
- One surveyed PHC had no supply of power whereas the other PHC did not had any type of power backup.
- Regular water supply and adequate toilet facilities were the important gaps.
- The drugs provided by the government was quite insufficient and difficult to manage the problems of the referred patients that the MOIC have to treat and manage. Lack of laboratory chemicals for array of basic tests prescribed in the norm also hampers the proper diagnosis of the patients.
- Due to lack of essentials drugs and facilities, large number of patients were been referred to CHC leading to unnecessary overloading at CHC and thus pushing the patients into the hands of private practioners.

[2] Epidemiological reasons are the rate and type disease prevalence like fever which may be treated by paramedical staffs at village level whereas high blood pressure patients need referral services and medical attention by a qualified doctor at PHC level.

[3] The social reasons are the reduction in the delay and expenses in seeking medical care for instance with chronic cough, a person may not leave his earnings and travel far for treatment till it become life threatening.

Gaps regarding Manpower Management and their job profile/description

- There was a critical non-availability of doctors for working at the surveyed PHCs;
- Doctors placed at PHCs do not avail their residence within PHC premises;
- Even if the doctors were present, the community perceived that the quality of services rendered by the concerned doctor was not much better than the RMPs of their villages;
- In relation to the number of OPD and IPD patients observed in the facility, there was an excess of paramedical staffs. Most of the staff was designed to support the doctor and when he was absent, the entire PHC remained at a standstill. Even if the doctor was present the cost per patient was too high with a little impact on public health.
- There was a lack of set standards for measuring and monitoring the quality of medical care provided to the villagers.
- Lack of accountability of the staffs to the public and lack of community participation in day to day affairs of the facility was also observed.

Possible Alternative Strategies

The most important issue to be addressed for revitalising the facility at cluster of Panchayats level is the availability, the regularity and the functioning of the medical officer and other doctors. The possible strategies could be as follows:

- A higher salary may be offered to doctors for serving in difficult areas but the government should ensure their sustainability and round the clock availability within the premise of PHC as well as providing quality services to the villagers.
- Another option is to provide performance based monetary incentives to the doctors working in difficult areas. The performance should be evaluated by community representatives along with external evaluators on the basis of certain standards like OPD and IPD attendance etc. which should be developed and incorporated in IPHS.
- Proper recruitment and positioning of paramedical staffs as per the norms prescribed in IPHS.

- Proper mechanism should be made to formalize the community participation in a comprehensive manner to achieve NRHM's key objective of decentralization.

CHC's BOTTLENECK

After the facility survey, it was found that CHC at Jawan has to cover a long way to adhere to the prescribed norm of the IPHS 2012. After comparing the level of available services according to the IPHS standard, it may be concluded that the CHC is operating as a functional PHC and is upgraded only on papers.

The constraints of the CHC in reaching higher level of functionality are discussed below:

Gaps regarding infrastructure, equipment and supplies.

- Only one CHC for a population of more than 150000 scattered over 80 kms is evidently not adequate to deliver proper services to the referred patients across villages.
- Lack of norms related to the establishment of the facility on geographical basis.
- Lack of proper guidelines related to the quality of construction, input materials and supervision during construction, created many problems like lack of privacy, inadequate working spaces in various rooms providing a poor working environment for the medical and administrative staffs.
- CHC has not been able to render specialised health care services to the villagers for which these were established.
- Non-availability of doctors (in position) for consultation and non-functionality of existing equipment has been also noted in the surveyed CHC.
- Improper water and power supply, no separate bathing facilities for men and women, and poor waste disposal are some of the common problems related to infrastructure at CHCs.
- Well-built Operation theatre but non-functional due to lack of use and maintenance.
- Over emphasis on the civil works and unplanned and rapid expansion of physical infrastructure without thinking about its access and utility to the public for example the facility was having 30 bed with less than 10% occupancy.

- Neglect of maintenance and repairing works lead to rapid deterioration of the functional quality of physical infrastructure available at CHC.
- The gaps in decent accommodation for staff are huge. Providing staff quarters for a small number of staff is not adequate and availability of good accommodation with essential facilities on rent in block headquarter is also limited.
- The CHC had laboratory facility but conforming to that of PHC level as per the IPHS standard. Thus, curative services were provided without proper diagnosis leading to irrational over-medication and development of negative mindset of villagers about the curative care.
- Lack of proper maintenance and back-up for the modern diagnostic equipment like X-ray and USG machine.
- Lack of proper functional mechanism for purchase, storage and distribution of essential drugs at facility level.

Gaps regarding Manpower Management and their job profile/description

- Underutilisation of facilities due to unavailability of doctors.
- Non-availability of doctors (in position) for consultation
- Neglect of AYUSH resources in planning, management, and utilization of its services.

Possible Alternative Strategies

- The total number of CHCs should be as per population norms and not by administrative block wise.
- Review of the existing norms for establishment of PHCs/CHCs in view of the findings that location and geographical area coverage are important determinants of access and utilization of health institutions.
- Dissemination of the information about functions of CHC among the villages of the district through PRIs so that the people in the district can take full advantage of these well-equipped CHCs
- Developing a system of repairs and maintenance of health infrastructure.

- Incorporating new innovative ways and means to bridge the gap in the availability of manpower (including unwillingness of doctors to serve rural areas) and complementary services (e.g. the services of anaesthetists).
- The complementary facilities and manpower of health care institutions should get primacy/priority over other considerations in allocation of resources
- Mainstreaming of AYUSH system

This gigantic mission, NRHM, operational since April 2005, has been effective to a greater extent at facility level in relation to the aims and objectives of the mission are concerned. The mission has been supporting the primary health care system in all the domains of rural life for which it was designed. The Sub-centers at the village level, PHCs at cluster of villages i.e. *Gram Panchayat* level and CHCs at block level now have the developed infrastructure, improved facilities, increased manpower and greater quality care.

However, considering the growing population in the country, even the widespread NRHM also doesn't cater the healthcare facilities to the rural masses exhaustively. There are on the other hand, some serious shortcomings and flaws associated with it. At every level of the healthcare institutions, the situation is same with soaring patient to doctor ratio, inadequate infrastructure and insufficient manpower. Hence, this existing reality has been juxtaposed with the NRHM, its aims, objectives and the IPHS health document.

No doubt, within this limited period, the NRHM has succeeded in putting back the issue of public health at the top of the government agenda. This has put pressure on the state governments to divert resources to the health sector, thereby substantially strengthening the public health system, including its workforce. Although these achievements have fallen short of what was originally conceptualised, the investment has had a positive impact on functioning of health facilities at block level and essential and assured services like immunisation, institutional deliveries and antenatal care etc.

Chapter - 5

NRHM and Maternal Health in Majority and Minority Communities

CHAPTER 5

NRHM AND MATERNAL HEALTH IN MAJORITY AND MINORITY COMMUNITIES

It is revealed from the data and analysis in the preceding chapter that NRHM policy prescriptions were not effectively implemented in sampled villages. Everywhere the gap existed between what the policy prescribed and what existed in reality. This gap was noticeable in infrastructure, in services, in management, and other activities of NRHM at every stage of health care i.e. Sub-Centres, PHCs and CHC. No significant difference in infrastructural facilities was observed between majority and minority concentration villages. Indeed, majority and minority concentration villages were served by common Sub-Centers, PHCs and CHC at many places. In this way minority villages were not different from majority villages in terms of service condition and infrastructural facilities of NRHM. Both types of villages were found to be equally benefited or deprived.

The focus of this chapter is on health condition of both majority and minority women in reproductive age group (18-34 years) with at least one live birth within five years preceding the survey. Indeed, one of the goals of NRHM is to promote maternal and child health. It is with this objective in mind, an attempt is made in this chapter to analyse attitudes of women towards health care services, quality of services provided to them, their fertility behaviour and so on. The response of women is correlated with their living condition, education, age at marriage etc. Thus, the aim of this chapter is to analyse the impact of NRHM on women beneficiaries and to find out the deference between women of majority and minority communities.

One hundred ninety-eight households were selected on the basis of the availability of married women in the age group of 18-34 years with at least one live birth within five years preceding the survey. Out of which 132 (66.7%) respondents were of Hindus and remaining 66 (33.3%) were of Muslims. Interview schedule was formulated to get information from women respondents and not from the head of the households. Their responses are analysed, tabulated and presented below under following broad headings- profile of respondents; their living or household conditions, their fertility behavior, their maternal health status and their accessibility and attitude towards health care service providers.

PROFILE OF THE RESPONDENT

This section highlights the background characteristics of the respondents i.e. Hindu and Muslim women in the age group of 18-34 with at least one live birth within five years preceding the survey. Few important variables such as current age of the respondent, type of family, education, working status etc. were taken into consideration while analyzing the profile of the respondents. Table 5.1 presents the background characteristic of the respondent across religion.

Table 5.1: Religion-wise Distribution of Background Characteristics of the Sampled Respondents in Aligarh District

Characteristics		Hindu	Muslim
Current Age of the Respondent	18-24	80 (60.6%)	40 (60.6%)
	25-34	52 (39.4%)	26 (39.4%)
	Minimum Age	19	18
	Maximum Age	30	32
	Mean Age	24.48	24.58
Age at Marriage	Before 18 years	19 (14.4%)	34 (69.6%)
	After 18 years	113 (85.6%)	32 (48.4%)
Place of Childhood Residence	Rural	104 (78.8%)	54 (81.8%)
	Urban	28 (21.2%)	12 (18.2%)
Type of Family	Simple	72 (54.5%)	22 (33.3%)
	Complex	60 (45.5%)	44 (66.7%)
Education of the Women	Illiterate	64 (48.5%)	40 (60.6%)
	Only literate	16 (12.1%)	16 (24.2%)
	Less than middle school	48 (36.4%)	6 (9.1%)
	Middle school and above	4 (3%)	4 (6.1%)
Work Status of the women	Not working	128 (97%)	62 (93.9%)
	Working	4 (3.0%)	4 (6.1%)
Husband's Education	Illiterate	11(8.3%)	22 (33.3%)
	Less than middle school	42 (31.8%)	28 (42.4%)
	Middle school and above	79 (59.9%)	16 (24.3%)
Media Exposure of the Women	TV	44 (33.3%)	12 (18.2%)

Source: *Based on Primary Field Survey*

Age and health corresponds to each other in every development phase of human existence. It is a proven fact that healthy mind and body enhances the

longevity of an individual. At every age it becomes essential at individual must take proper care of his/her own health.

The data shows that at the time of survey, minimum and maximum age of respondents was 18 and 32 respectively whereas mean age and std. deviation was 24.52 and 2.946 respectively.

It is found that among Hindus, the minimum and maximum age at the time survey was 19 years and 30 years whereas among Muslims it was 18 and 32 years respectively. While, mean age of Hindus (24.48) was marginally less than Muslims (24.58). Hence, No significant difference between Hindus and Muslims exist in regard to current age.

Marrying at the right age especially for women prove to be beneficial and less risk involve in their reproductive system and during child birth. Though the legal age at marriage for girl in India is 18years but still many parts of rural India, parents due to societal pressure get their daughters marry before the prescribed legitimate age. The data show that many of the respondents got married before they attained legal, social, emotional and physical maturity. The minimum and maximum age of the total sampled respondents at the time of their marriage was 13 and 23 respectively whereas the mean age was 18.03 years.

Among Hindu respondents, the minimum and maximum age at the time of marriage was 13 and 23 respectively while among Muslim respondents, the minimum and maximum age was 13 and 20 years. The mean age for marriage for Muslims (16.79) was less than Hindus (18.52).However, only 14.4% of the Hindu women reported to have married before the attainment of legal age at marriage while the corresponding figure for the Muslim women was about 70%.

Social environment plays a crucial role in socialization process of a child. The healthy growing years of the child is dependent on safe, hygienic, secured and positive family environment. A healthy adult can be easily identified if his or her socialization and childhood experiences were positive and satisfactory. Thus the place of childhood residence as a variable has been taken into consideration while analyzing the profile of the respondents. When the sample data are cross tabulated according to the place of childhood residence, it is seen that 78.8% of the Hindu women and 81.8% of the Muslim women lived in rural areas during their childhood. However, few

sample household also have an urban atmosphere that is 21.2% of Hindu women and 18.2 % of Muslim women respondents were habitant of urban community.

Education is one of the critical indicator for determining health condition of women. Many studies have demonstrated positive relationship between female education and their health behavior. Educational status of the respondent's indicates that 52.5% were illiterate, 16.2% were only literate, 23.2% and 4% were passed primary and middle classes respectively. Only a few respondents were able to acquire secondary (2%) and higher secondary (2%) certificate.

Out of total respondents under Hindu category, the percent distribution of education was illiterate (48.5%), only literate (12.1%), primary (30.3%), middle (6.1%) and senior secondary (3%). For Muslim respondents, the percent distribution of education was illiterate (60.6%), only literate (24.2%), below primary (6.1%), primary (3%) and secondary (6.1%).

Out of total respondents, only 3.1% Hindu women and 6.1% Muslim women making a total of 4% of the total sampled respondents were engaged in income generating activities outside their home.

Current age, age at marriage, level of education and work participation of women are some of the major determinants of health condition. And, as it is evident from the above descriptions that no significance difference exist between Hindus and Muslim women. While current age of Muslim women is slightly greater than that of Hindu women, their age at marriage is marginally below to their Hindu counterparts. Similarly, Muslim women are behind to Hindu women in education but their work participation is more than their Hindu counterparts.

Nature of Household

Nature of household is identified on the basis of three indicators i.e. type of household-simple or complex, headship of the household and size of the household. As far as type of household is concerned it is revealed form the data that complex or joint households are more than simple or nuclear households, while 52.5% are joint households, 47.5% were simple household.

Table 5.2 Religion-wise Distribution of Household Characteristics of Respondents in Aligarh District

Details of Household		Hindu	Muslim
Total Number of Household		132 (66.7%)	66 (33.3%)
Type of Family	Nuclear	72 (54.5%)	22 (33.3%)
	Joint	60 (45.5%)	44 (66.7%)
Sex of the Head of the HH	Male	112 (84.8%)	60 (90.9%)
	Female	20 (15.2%)	6 (9.1%)
Total Members in the Household	1-5	68 (51.52%)	8 (12.12%)
	6-10	64 (48.48%)	56 (84.85%)
	10+	0	2 (3.03%)
Average Household Size	Minimum	3	3
	Maximum	10	19
	Mean	5.79	7.97

Note: HH-Household
Source: *Based on Primary Field Survey*

Out of total Hindu households, the prevalence of simple household (54.5%) was greater than that of complex household (45.5%). On the contrary, among Muslim households, the complex households (66.7%) was higher as compared to simple household (33.3%) It was evident that the presence of joint household was more found in Muslim households as compared to Hindu households.

Patriarchal dominance is evident from the data surveyed as it was found that in both Hindus & Muslims Households, the household headship and the control on family matters was exercised by the male members only. Notwithstanding both male and female headed households were found, female headed households were very few i.e. only 13.1%. Highest number of female-headed households i.e. 15.2% exists among Hindus while Muslims have 9.1% of such households. This elicits that the percentage of female headed households among Hindu households was more as compared to Muslim households.

The mean household size of Muslim i.e. 7.97 is much greater than that of Hindus i.e. 5.79. The minimum household size for both Hindu and Muslim is 3. However, the maximum household varies from 10 for Hindu household to 19 for Muslim household respectively. On further investigation about the demographic profile, it was found that the average size of the household among the Hindus and

Muslims was minimum 3 whereas maximum was 10 and 19 in Hindu and Muslim household respectively. This further clarifies that among the Hindu households the number of members within the bracket 1-5 and 6-10 were 68 (51.52%) and 64 (48.4%) whereas among the Muslim population, it was observed that the majority of the households have more than 5 members i.e. within 6-10 members was 84.85%. Very few Muslim families have members between and less than 1-5.

LIVING CONDITIONS

More than nature of household as it is described above, it is living condition of household which very significantly affect health condition. Living condition for this study, is explored on the basis of certain indicators which are broadly categorised into two categories i.e. Category A includes data about type of habitation, ownership of habitation, and accommodation in the household whereas category B explains the condition of Civic amenities like availability of safe drinking, sanitation, water, light, fuel used etc. All these indicators affect health condition of the population.

Habitation Type

The type of house to some extent determine the living standard of the members. The data is indicative of the fact that many respondents have semi-*pucca* houses followed by *pucca* and few *kaccha* houses.

Table 5.3: Religion-wise Distribution of Type of Habitation of Respondents in Aligarh District

House Hold Detail		Hindu	Muslim
Type of House	Pucca	28 (21.2%)	18 (27.3%)
	Semi-Pacca	76 (57.6%)	36 (54.5%)
	Kaccha	28 (21.2%)	12 (18.2%)
	Total	**132 (100%)**	**66 (100%)**

Source: *Based on Primary Field Survey*

The distribution of households according to their type of habitation presented in the above table 5.3 indicates that highest percentage is of semi-*pucca* (56.6%) followed by *pucca* habitation (23.2%). Remaining 15 per cent households live in *Katcha Khaprail* house (20.2%)

Out of total sampled Hindu households, the majority lives in Semi-*pucca* (57.6 %) followed by Pucca (21.2%) and Kuccha (21.2%). Whereas among Muslims, the

majority also lives in Semi-*Pucca* (54.5 %) followed by *Pucca* (27.3%) and *Kuccha* (18.2%). But the percentage of *Pucca* house was highest among Muslims than Hindus.

Household Ownership

Owing a house gives a sense of security and belongingness thus regarding the ownership of house the data presented in the below table 5.4 reveals that the majority of Hindu (93.9%) and Muslim (90.9%) sample households have their own house whereas only 8 (6%) Hindu and (6.9%) Muslim sample households living in rented accommodation.

Table 5.4 Religion-wise Distribution of Nature of Ownership of Houses of Respondents in Aligarh District

Household Detail		Hindu	Muslim
Ownership of House	Own	124 (93.94%)	60 (90.9%)
	Rented	8 (6.06%)	6 (9.1%)
	Total	**132**	**66 (100%)**

Source: *Based on Primary Field Survey*

Housing Condition

If ownership and type of house provides satisfaction to the members, the housing condition is equally detrimental in assessing the living standard of the sampled household. The information on the total number of rooms (excluding toilets and kitchens) were collected and presented in the below table 5.5 to measure household crowding.

Table 5.5: Religion-wise Distribution of Housing Condition of Houses of Respondents in Aligarh District

Household Detail		Hindu	Muslim
Number of Rooms	1	60 (45.5%)	22 (33.3%)
	2	40 (30.3%)	32 (48.5%)
	3	20 (15.2%)	10 (15.2%)
	4	8 (6.1%)	2 (3.0%)
	5+	4 (3.0%)	0 (0%)
	Total	**132 (100%)**	**66 (100%)**

Source: *Based on Primary Field Survey*

Most of the household have single room (41.4%) followed by two rooms (36.4%), three rooms (15.2%), four rooms (5.1%) and Five+ (2%) respectively. Out of total Hindu households, the distribution of rooms are as follows; single room (45.5%), two rooms (30.3%), three rooms (15.2%), four rooms (6.1%) and Five+ (3%). Whereas among Muslim households, majority of the sampled household have two rooms (48.5%) followed by single room (33.3%), three rooms (15.2%), four rooms (6.1%) and Five+ (3%). It can be seen that the prevalence of two rooms or more is higher among Muslims than Hindus however the mean rooms across Hindu and Muslim household was estimated at 1.97 and 1.88 rooms respectively.

Drinking Water Facility and its Source

Increasing access to safe drinking water is one of the Millennium Development Goals (MDGs) that India along with other nations worldwide has adopted (United Nations General Assembly, 2002). Accessibility to safe drinking and portable sources of water is an essential criteria for a healthy survival because potentially fatal diseases including typhoid, cholera, and dysentery are prevalent in unprotected water sources thus it become important to obtain information regarding safe drinking practices and it was quite endearing to find that safe drinking water was available in all sampled households. The data presented in table 5.6 showed that highest percentage (83.8%) of total households has their own facility of drinking water whereas 15.2 per cent were dependent upon public hand pump.

Table 5.6 Religion-wise Distribution of Availability of Drinking Water Facility and its Source in Households of Respondents in Aligarh District

House Hold Details		Hindu	Muslim
Source of Drinking Water	Own	108 (81.8%)	58 (87.9%)
	Public	24 (18.2%)	6 (9.1%)
	Neighbour	0 (0%)	2 (3%)
	Total	**132 (100%)**	**66 (100%)**
Location of Drinking Water	Within the dwelling	20 (15.2%)	30 (45.5%)
	Outside the dwelling but within the premise	88 (66.7%)	28 (42.4%)
	Outside Premise	24 (18.1%)	8 (12.1%)
	Total	**132 (100%)**	**66 (100%)**

Source: *Based on Primary Field Survey*

Only 1 percent fetch drinking water from their neighbours. However, it was also found that few sampled household relied on other sources of water as indicated in the data i.e. percent distribution of the source of drinking water was found at outside dwelling but within premises (58.6%) followed by within the dwelling (25.3%) and outside (16.1%) respectively.

The data categorically defines the accessibility to drinking water and its sources among the Hindus and Muslim Households as 81.8% households have their own drinking water facility and only 9.1 % depends upon public source of drinking. Whereas the corresponding figure for the Muslim households were 87.9% and 18.2% respectively.

66.7% of the Hindu households have the facility of drinking water within their premises but outside the dwelling place, whereas 18.1% reported outside their premises. Among Muslims, 42.4 % household have the facility within their premises whereas 12.1% household's facility was located outside the premises.

Separate Kitchen Facility

Regarding the availability of separate kitchen facility, it was found that nearly half of sample households 102 (51.5%) owns a separate kitchen whereas 96 (48.5%) do not have separate kitchen (Table 5.7).

Table 5.7: Religion-wise Distribution of Availability of Separate Kitchen Facility in Households of Respondents in Aligarh District

Separate Kitchen	Hindu	Muslim
Yes	60 (45.5%)	42 (63.6%)
No	72 (54.5%)	24 (36.4%)
Total	**132 (100.0)**	**66 (100.0)**

Source: *Based on Primary Field Survey.*

The availability of separate kitchen among the Muslim household 63.6 % is far better than those among Hindu household 45.5%.

Sanitation Facility

Ensuring adequate sanitation facilities is another important feature of the Millennium Development Goals (MDGs) which India shares with other developing countries. Access to adequate sanitation facilities is an important determinant of health conditions. Good health and regular hygiene practices can be propelled by

proper and adequate sanitation facilities which ultimately leads to healthy hygienic practices, and improved health conditions. Under NRHM also, it is mandated that VHSC of the village should participate in different intervention like Total Sanitation Scheme (TCS) for providing proper sanitation facility to all the villagers, however, still 45% of the sampled household were going for open defecation.

Table 5.8: Religion-wise Distribution of Availability of Sanitation in Households of Respondents in Aligarh District

Sanitation		Hindu	Muslim
Availability of Toilet Facility	Yes	68 (51.5%)	40 (60.6%)
	No	64 (48.5%)	26 (39.4%)
Location of Availability Toilet Facility	Attached	12 (9.1%)	26 (39.3%)
	Detached	120 (90.9%)	40 (60.7%)
	Total	**132 (100.0%)**	**66 (100.0%)**

Source: *Based on Primary Field Survey.*

In total sampled households, 45.5% of total households were found to be without toilet facility. The availability of toilet facility among the Muslim households (60.6 %) is far better than those among Hindu household (51.5%).

The information on the location of toilet presented in the above table no 5.8 suggests that mostly (80.8%) have sanitation facility detached to the dwelling with only few (19.2%) having attached to the dwelling.

On the ground of religion, the distribution of toilet attached to dwelling was reported highest under Muslim households (39.3%) comparably to Hindu households (9.1%).

Source of Light

Accessibility to electricity is also an important for healthy and organized living. Prolonged absence of electricity hampers the daily routine of any household and also directly or indirectly bring a negative impact on the education of their children. It is disheartening to know that in this digitalized and globalized world half of the sampled household did not have sufficient electricity.

Table 5.9: Religion-wise Distribution of Availability of Sources of Light in Households of Respondents in Aligarh District

Source of Light		Hindu	Muslim
Main Source of Light	Electricity	64 (48.5%)	36 (54.5%)
	Oil Lamp	56 (42.4%)	28 (42.5%)
	Solar Power	12 (9.1%)	2 (3.0%)
	Total	**132 (100.0%)**	**66 (100.0%)**

Source: *Based on Primary Field Survey.*

The data revealed that out of total sample households, nearly half of them 50.5% have electricity facility and 49.5% have no electricity at all. It is also revealed that in the absence of electricity, the source of light is oil lamp (42.4%) and solar (7.1%) respectively.

However, the availability of electricity was more prevalent among Muslim households (54.5%) than among Hindu households (48.5%).

Fuel Used

Till date many rural household rely on traditional method of cooking food. They fail to realize that the smoke arising from solid cooking fuels is a serious health hazard. Solid cooking fuels include coal/lignite, charcoal, wood, straw, shrubs, grass, agricultural crop waste and dung cakes. To study the potential for exposure to cooking smoke from solid fuels, researcher collected information on the type of fuel used for cooking.

Table 5.10: Religion-wise Distribution of Type of Fuel Used for Cooking in Households of Respondents in Aligarh District

Fuel Used for Cooking Purpose	Hindu	Muslim
Electricity	4 (3%)	4 (6.1%)
LPG/Bio Gas	4 (3%)	0 (0%)
Wood	28 (21.2%)	22 (33.3%)
Cow Dung	0 (0%)	2 (3%)
LPG & Wood	12 (9.1%)	10 (15.1%)
LPG, Wood & Cow Dung	8 (6.1%)	4 (6.1%)
Kerosene, Wood & Cow Dung	76 (57.6%)	20 (30.3%)
Electricity, Wood & Cow Dung	0 (0%)	4 (6.1%)
Total	**132 (100%)**	**66 (100%)**

Source: *Based on Primary Field Survey.*

The data shows that out of total Hindu households, the distribution of usage of fuel include Kerosene, Wood & Cow Dung (57.6%), Wood (21.2%), LPG & Wood (9.1%), LPG, Wood & Cow Dung (6.1%), LPG/Bio Gas (3%) and electricity (3%) respectively. Out of total Muslim households, the distribution is as follows, Wood (33.3%), Kerosene, Wood & Cow Dung (30.3%), LPG & Wood (15.2%), LPG, Wood & Cow Dung (6.1%), Electricity, Wood & Cow Dung (6.1%), Electricity (6.1%) and Cow Dung (3%) respectively. Overall, the data reveal that the vast majority of rural households (94%) use solid fuels for cooking that generate hazardous smoke and create unhealthy living conditions especially affecting pregnant women and children (Table No. 5.10)

Drainage Facility

Removing household wastewater is an important health intervention for reducing the occurrence of diseases. Poorly drainage system may provide breeding sites for disease vectors like dengue. Thus if not maintained it may pose a threat to whole community causing infections and epidemic.

Table 5.11: Religion-wise Distribution of Types of Drainage Facility in Households of Respondents in Aligarh District

Type of Drainage Facility	Hindu	Muslim
Open	124 (93.9%)	60 (90.9%)
Closed	8(6.1%)	6 (9.1%)
Total	**132 (100.0%)**	**66 (100.0%)**

Source: *Based on Primary Field Survey.*

Out of total sample households, 184 (92.9%) have open drainage system whereas only 14 of them (7.1%) have closed drainage system. The data also showed that the distribution of open drainage is 93.9% under Hindu category was marginally varied from 90.9% under Muslim category.

Land Ownership

It is indicated that only 45.5% sample household have any type of agro-land but 54.5% of them have no agro –land. Ownership of agro-land was reported more among Muslims (57.6%) than Hindus (39.4%).

Table 5.12: Religion-wise Distribution of Land Ownership in Household of Respondents in Aligarh District

Land Ownership	Hindu	Muslim
Yes	52 (39.4%)	38 (57.6%)
No	80 (60.6%)	28 (42.4%)
Total	**132 (100.0%)**	**66 (100.0%)**

Source: *Based on Primary Field Survey.*

FERTILITY BEHAVIOUR

In this study the fertility of the Hindu and Muslim women has been measured in terms of average number of living children. Many studies have shown that the number of children born varies significantly across religious groups especially between Hindu and Muslim. According to NFHS-3 survey, the deferential in fertility across Hindu-Muslim community in UP is 2.8 and 4.0 respectively.

Table 5.13 Religion-wise Distribution of Average Number of Children among Respondents in Aligarh District

Fertility	Hindu	Muslim	Difference
Average Number of Male Child	1.21	1.18	.03
Average Number of Female Child	1.45	1.60	.15
Average Number of Children	2.40	3.06	.66

Source: *Based on Primary Field Survey.*

In the present study also, the average number of children were found to be higher among Muslims than Hindus (Table 5.13). According to the data gathered, it is evident that average number of children for Hindu women is estimated at 2.40, whereas the corresponding figure for the Muslim women is estimated to be 3.06 children. However, the figure is far from one of the goal of NRHM i.e. reducing Total Fertility Rate (TFR) to 2.1.

Average number of male child to Hindu women and Muslim women is 1.21 and 1.81 respectively whereas average number of female child to Hindu women and Muslim women is 1.45 and 1.60 respectively. Thus from the above data, it is analyzed that both the community have positive sex ratio among children however Muslims have more daughters in comparison to Hindus.

Table 5.14: Religion-wise Distribution of Number of Living Children by Gender among Respondents in Aligarh District

Religion	No. of Children	No. of Sons	No. of Daughters
Hindu	Nil	19 (14.4%)	24 (18.2%)
	One	69 (52.3%)	61 (46.2%)
	Two	41 (31.1%)	45 (34.1%)
	Three	3 (2.3%)	2 (1.5%)
	Total	**132 (100%)**	**132 (100%)**
Muslim	Nil	9 (13.6%)	11 (16.7%)
	One	30 (45.5%)	23 (34.8%)
	Two	20 (30.3%)	16 (24.2%)
	Three	3 (4.5%)	13 (19.7%)
	Four	3 (4.5%)	3 (4.5%)
	Five	1 (1.5%)	0 (0.0%)
	Total	**66 (100%)**	**66 (100%)**

Source: *Based on Primary Field Survey*

Table 5.14 presents the percentage distribution of number of living sons and daughters of the respondents across religion. It is evident from the data that among Hindus, 14.4% women have no son, 52.3% have one, 31.1% have two and 2.3% women have three sons. Among Muslims, 13.6% women have no son, 45.5% have one, 30.3% have two and 4.5% have three, the same percentage have four and only 1.5% have five sons. Regarding the number of daughters to the women across religion, 18.2% Hindu women have no daughter, 46.2% have one, 34.1% have two, and 1.5% have three daughters. Among Muslims, the distribution for the number of livings daughters was nil among 16.7%, one among 34.8%, two among 24.2%, three among 19.7% and four among 4.5% women. Thus from the above table, the percentage of women with 2 or less than 2 living children is found to be higher among Hindus than the Muslims. For example, 52.3% of the Hindu women were having 1 son, whereas the same figure for the Muslim women is 45.5%. Likewise, 31.1% of the Hindu women have 2 sons as against 30.3% of Muslim women. In totality, 83.4% of the Hindu women have 2 or less than 2 son, while the corresponding figure for the Muslim women is 75.8%. In respect to living daughter, 46.2 % of the Hindu women were having 1 daughter, whereas the same figure for the Muslim women is 34.8%. Likewise, 34.1% of the Hindu women have 2 daughter as against 24.2% of Muslim women. In totality, 80.3% of the Hindu women have 2 or less than 2 son, while the

corresponding figure for the Muslim women is 59.0%. On the other hand, higher order of birth is more among Muslim women, for instance, 4.5% and 19.7% of the Muslim women have 3 sons and 3 daughters respectively as compared to 2.3% and 1.5% of Hindu women. Thus it is evident from the above table that higher percentage of Muslim women have 4 and 5 children in comparison to the Hindus

Effect of Background Characteristics on Mean Number of Children

Demographers and population scientist claim that the background characteristics of the women plays vital role on their fertility status, for e.g., the women who are educated, living in urban area etc. have lesser number of children than those who are uneducated and live in rural domain. In this section, the mean number of living son and daughter of Hindu and Muslim women is examined by their selected background characteristics like current age, age at the time of marriage, education and their childhood residence.

Current age of the Women and Mean Number of Children

It has been proved that the fertility of a women is closely associated with the age of the women. Older the women, longer the reproductive span and thus have larger number of children. Thus, it is expected that younger women would have lesser number of children in comparison to the older women of the community.

Table 5.15: Religion-wise Distribution of Mean Number of Children Born among Respondents by Current Age Group in Aligarh District

Current age group of the Women	Mean Number of Children among Hindus	Mean Number of Children among Hindus
18-24	1.4	2.0
25-34	2.0	2.9

Source: *Based on Primary Field Survey.*

The present survey depicts that the mean number of children has a positive association with the age of the women.

Age at the time of Marriage of the Women and Mean Number of Children

Age of the female at the time of marriage plays a crucial factor in determining the fertility because it affect the reproductive life span of a woman. Higher the age of the marriage, lower is the reproductive life span of the woman. Studies (McDonald,

2000; Smith, 1980) have shown that the age of marriage is inversely related to the fertility rate of the women.

Table 5.16: Religion-wise Effect of the Current Age on Mean Number of Children among Women Respondents Religion

Age at the time of Marriage	Total Number of Children						Total
	1	2	3	4	5	> 5	
13	2	0	0	0	0	0	2
14	2	1	1	0	2	2	8
15	0	2	4	0	0	0	6
16	2	4	2	12	10	0	30
17	7	1	5	6	0	0	19
18	15	19	19	8	0	0	61
19	11	0	20	2	0	0	33
20	1	21	4	0	4	0	30
21	4	1	0	0	0	0	5
23	0	0	4	0	0	0	4
Total	**44**	**49**	**59**	**28**	**16**	**2**	**198**

Table 5.16 explicitly defines that both Hindu and Muslim women who married before the age of 18 years have more number of children than the women married after the age of 18. It was found that maximum number of respondents having 5 children were married at the age of 16 years only whereas maximum number of respondent having only 2 children were married at the age of 20. None of the women who were married after 20 years were having more than 3 children.

Education of the Women and Mean number of Children

Education is considered as the most important indicator in any kind of analysis related to fertility across the globe, country, society, community etc. Many studies have substantiated the direct relation between education of the female and the number of her children. (Desai & Alva, 1998).

Table 5.17: Religion-wise Effect of Education on Mean Number of Children among Respondents in Aligarh District

Religion		Total Number of Children						
		1	2	3	4	5	<5	Total
Hindu	**Illiterate**	4	16	28	16			64 (48.5%)
	Only Literate	4	8	4	0			16 (12.1%)
	Primary	16	12	12	0			40 (30.3%)
	Middle	0	0	8	0			8 (6.1%)
	Senior Secondary	4	0	0	0			4 (3.0%)
	Total	**28**	**36**	**52**	**16**			**132 (100%)**
Muslim	**Illiterate**	8	2	4	8	16	2	40 (60.6%)
	Only Literate	4	9	1	2	0	0	16 (24.2%)
	Below Primary	0	2	0	2	0	0	4 (6.1%)
	Primary	0	0	2	0	0	0	2 (3.0%)
	Secondary	4	0	0	0	0	0	4 (6.1%)
	Total	**16**	**13**	**7**	**12**	**16**	**2**	**66 (100%)**

Source: *Based on Primary Field Survey.*

The present study shows the expected co-relationship between the two variables that is health and education which has also been validated by previous studies previously conducted. Among Hindus as well as Muslims, the number of children declines with the increase in the education level. Among Hindus, it was found that 64% illiterate women had higher fertility rate as they had more children whereas the women with middle and senior secondary qualification had only 6.1% and 4% of the total children respectively. The scenario among Muslims was equally the same with 60.6% illiterate women had higher fertility rate and women with primary and secondary qualification have only 3.0% and 6.1% of the total children.

Effect of Childhood Residence on Mean Number of Children across Religion

The data collected also highlighted the significance of the effect of childhood residence influencing the fertility behavioral pattern of the women.(Speizer, Lance, Verma, & Benson, 2015). The women residing in urban areas have added advantage of getting better exposure to education, inculcating modern values and independence

thus favouring late marriages. This kind of freedom and acceptance of late marriage creates an impact upon the number of children the women desires to have.

Table 5.18: Religion-wise Distribution of Effect of Childhood Residence on Mean Number of Children among Respondents in Aligarh District

Religion	Childhood Residence	N	Minimum	Maximum	Mean
Hindu	Rural	104	1	4	2.50
	Urban	28	1	3	2.14
Muslim	Rural	54	1	6	3.13
	Urban	12	1	4	2.83

Source: *Based on Primary Field Survey.*

The data given in the table shows that among Hindus, the women who had spent their childhood days in the rural community had the inclination of having more children i.e. maximum 4 and minimum 1 child. Whereas those residence of urban areas had maximum 3 and minimum 1 child, thus highlighting the mean average i.e. 2.5. As far as Muslim respondents are concerned, it was seen that women respondents of rural childhood residence had maximum 6 children and minimum 1 child with mean 3.13 and those of urban childhood residence had maximum 4 children and minimum 1 child, the mean figure being 2.83.

Fertility Preferences

Son preference is generally considered as an important factor influencing fertility behavior & related decisions (Shahid, 2014). Several demographers and social scientists (Bhat & Zavier, 2005) recognized that due to the practice of dowry and importance of son for performing several religious rites, Hindus have stronger preference for sons than Muslims. Procuring information on the preferences of next fertility was a tedious job for the researcher because it keeps on changing with time and second. It may also change because of the family and society pressure which may exerted after first of second fertility. Thus, this information was essential for mapping and to gage the general attitude of the community towards the future course of fertility across religion.

Desire for and Preference of Additional Children and the Background Characteristic

The data presented in the below table 5.19 shows that 51.5% and 45.5% of the Hindu and Muslim respondents respectively desire to have another child in future.

Table 5.19: Religion-wise Distribution of Desire and Preference by Gender among Respondents in Aligarh District

Religion	Preference	Preference of Son or Daughter				Total
		NA	Son	Daughter	No Preference	
Hindu	Yes	0	49 (72.1%)	9 (13.2%)	10 (14.7%)	68 (51.5%)
	No	64	0	0	0	64 (48.5%)
	Total	**64**	**49**	**9**	**10**	**132 (100%)**
Muslim	Yes	0	4 (13.3%)	4 (13.3%)	22 (73.4%)	30 (45.5%)
	No	36	0	0	0	36 (54.5%)
	Total	**36**	**4**	**4**	**22**	**66 (100%)**

Source: *Based on Primary Field Survey.*

It is unfortunate to know that families have a preference for a boy as a first child. The need of a single male child become so pertinent that they exert pressure on the women to have at least one son irrespective of number of girl child she has delivered previously. Out of the Hindu women (n=68) who desired for additional child, 72% gave preference to male child and only 13.2% expressed to deliver a baby girl in future. Among Muslim women (n=30), who desired for additional child, 13.3% gave preference to male child and same percent preferred female child in future. Whereas, 14.7% of Hindu women and 73.4% of Muslim women desired a healthy baby irrespective of its sex. These figures clearly support the findings of the social scientists related to the existence of gender biasness among Hindus in comparison to Muslims.

There are many other background characteristics which may affect the preference for additional children. One of the important factors among them is the existing number of children discussed in the coming paragraph.

The data presented in the below Table 5.20, the desire for additional children goes down with the increase in the number of children in general. 87.5% of the Hindu women (n=64) with 2 or less than 2 children desired for an additional child whereas only 17.6% (n=68) with 3 or more than 3 children desired for another fertility. Likewise, 86.2% of the Muslim women (n=29) with 2 or less than 2 children desired for more children whereas only 13.5% (n=37) with 3 or more than 3 children desired for additional children.

Table 5.20: Religion-wise Distribution of Desire and Gender Preference of Additional Children among Respondents in Aligarh District

Religion		Preference of Son or Daughter				Total
		NA	Son	Daughter	No Preference	
Hindu	<2	8	37	9	10	64 (48.5%)
	>2	56	12	0	0	68 (51.5%)
	Total	**64**	**49**	**9**	**10**	**132**
Muslim	<2	4	2	4	19	29 (43.9%)
	>2	32	2	0	3	37 (56.1%)
	Total	**36**	**4**	**4**	**22**	**66**

Source: *Based on Primary Field Survey.*

Effect of Background Characteristics on Son Preferences.

All the communities irrespective of caste, creed and religion have a unanimous choice of having at least one male child. However the percentage of ratio of son preferences may be high or low but the desire to have a male child is prevalent and common in almost all the communities. Below Table 5.21 presents the data on son preference of the women across religion. Out of those who want to have children in future (n=68), it was found that 72.1% respondents belonging to the Hindu sect desired a male child if in future they conceive or expect another child whereas, the corresponding figure for the Muslim women is 13.3% only. Thus it may be claimed that son preference is more among Hindus than Muslims.

Table 5.21: Religion-wise Distribution of Desire and Gender Preference of Additional Children among Respondents in Aligarh District

Religion	Preference of Son or Daughter				Total
	NA	Son	Daughter	No Preference	
Hindu	0	49 (72.1%)	9 (13.2%)	10 (14.7%)	68 (51.5%)
Muslim	0	4 (13.3%)	4 (13.3%)	22 (73.4%)	30 (45.5%)

Source: *Based on Primary Field Survey.*

Another evidence of son preference was also dependent on the type of family system. It was noted that the son preference was found to be high among the Hindu women living in joint family whereas the nature of household was not the factor for the preference of male child in future fertility among Muslim women.(Table 5.21).

Table 5.22: Religion-wise Distribution of Son Preference among Respondents by Type of Household in Aligarh District

Religion	Type/Nature of Household	Preference for Son
Hindu	Simple	21
	Complex	28
	Total	49
Muslim	Simple	2
	Complex	2
	Total	4

Source: *Based on Primary Field Survey.*

As far as the women's education is concerned, the son preference exists among the women of all educational categories; however, it was highest among the Hindu women who are illiterate.

Attitude towards the number of Children to be procreated

Attitude towards number of children a woman should have depends upon the family though it might differ from community to community on the basis of certain background characteristics. In the present study it was found that among Hindus, 37.1% women wants to give birth to at least 4 children, 29.5% wants 3, and 33.3% women wants 2 children in her family. Whereas among Muslims, 42.4% wants only 2 children in her family i.e. 10 points lesser than the Hindus. However, 3% Muslim women even desired for more than 4 children in her family.

Table 5.23: Religion-wise Distribution of Attitude Regarding the Number of Children to be Procreated among Respondent in Aligarh District

Religion	Number of Children	Frequency	Percent
Hindu	2	44	33.3
	3	39	29.5
	4	49	37.1
	Total	**132**	**100.0**
Muslim	2	28	42.4
	3	18	27.3
	4	18	27.3
	More than 4	2	3.0
	Total	**66**	**100.0**

Source: *Based on Primary Field Survey.*

There are many other background characteristics which becomes detrimental in the process of making decisions regarding procreation and fertility pattern adopted in a family. One of the important factors among them is the educational status of the women as it is found that more the women is educated, less the number of children she prefers and vise-versa.

Table 5.24: *Religion-wise Distribution of Level of Education and Preference for* Number of Children among Respondents in Aligarh District

Religion	Highest Grade of Education of Respondent	How many Children should be Procreated				Total
		2	3	4	More than 4	
Hindu	Illiterate	4	27	33		64
	Only Literate	8	4	4		16
	Primary	24	4	12		40
	Middle	4	4	0		8
	Senior Secondary	4	0	0		4
	Total	**44**	**39**	**49**		**132**
Muslim	Illiterate	16	12	10	2	40
	Only Literate	8	2	6	0	16
	Below Primary	0	4	0	0	4
	Primary	0	0	2	0	2
	Secondary	4	0	0	0	4
	Total	28	18	18	2	66

Source: *Based on Field Survey.*

The data presented in the above table 5.24 explicit that the desire for higher number of children in the family is inversely related to the literacy status of the women. The collected data during the study reflected the fact that higher the education less is the preference for more children. Among the Hindus, it was found that illiterate respondents expected 3-4 children, literate respondents has a preference for only 2 children followed by 3 & 4 children. The respondents under the category of primary education showed preference of having only 2 children which was followed by 4 and 3 children. However, those under the category of middle and senior secondary desired to have only 2 children and not more than that. On the contrary, among the Muslims, illiterate respondents have a higher preference for more than 2 children as 10 & 12 respondents wanted 3 or 4 children. The literate respondents equally expected more than 2 children, whereas, those under the category of below primary education expressed to have only 3 children. The respondents under the

category of primary and secondary education, the preference for more children is subsided as only 4 respondents expressed to have only 2 children.

MATERNAL HEALTH

Maternal Health Care (MCH) is considered a very crucial component of NRHM to reduce maternal and child health which are also the goal number 3 and 4 of the MDGs. To achieve this goal, NRHM assured many care provisions during antenatal, delivery and post natal period responsible for the health of mother and the child. Initiation of ASHA and VHND are the strategies of promoting wider utilization of maternal health care package. However, the utilization of the MCH services varies from community to community and within community from individual to individual. Proper maternal health care also depends largely on various socio-economic-cultural-demographical factors, which operate at community and individual levels. (Das, 2000). This section provides an insight on maternal health experiences of the Hindu and Muslim Women.

Ante Natal Care Utilization Patterns

Ante Natal Care (ANC) refers to pregnancy related health care provided by a doctor or a health worker in a medical facility or at home. It plays a vital role on the successful outcome of the pregnancy (Rajput, 2011, p. 81). It is also an important component of NRHM to reduce MMR. As per IPHS norm, the ANC package includes the provision of at least 3 checkups and includes some associated services like general examination, as height, weight, B.P., anemia, abdominal and breast examination, IFA supplementation from 12 weeks, TT injections etc. ANC can reduce maternal as well as infant mortality to a great extent because it also includes advice on correct nutritious diet and mobilizing expecting mother and her family for institutional delivery for the better care and safety of mother and newborn.

Table 5.25: Religion-wise Distribution of Utilization of Antenatal Care (ANC) Services in Previous Pregnancies among Respondent's in Aligarh District

	Hindu	Muslim	Total
No. of Women utilizing ANC services	116 (87.9%)	54 (81.8%)	170 (85.9%)
No. of Women not utilizing ANC Services	16 (12.1%)	12 (18.2%)	28 (14.1%)
Total	132 (100%)	66 (100%)	198 (100%)

Source: *Based on Field Survey.*

The data presented in the Table 5.25 provides the information about the percentage of Hindu and Muslim women having ANC during their last pregnancy occurring during five year preceding the survey. It can be seen 85.9 % of the total respondent received ANC services and among Hindus and Muslims, 87.9% and 81.8% women have received ANC in previous pregnancy respectively.

NRHM aims to reach every single expected mother through different initiatives like VHND, ASHAs etc. but it is apparent from the data that only 86% of the respondents received ANC checkups. The analysis clearly reflects that NRHM initiatives have increased utilization of ANC services which is highly commendable however it is to be noted that for achieving the goal of reducing IMR and MMR to the marked level, all the expected mother should be accommodated in the service umbrella of NRHM.

Frequency of Ante Natal Care Services Received

Out of the total 198 women, 85.86 % (n=170) utilized the ANC services, at least once during the last pregnancy period. Table 5.26 is showing the frequency of ANC received by the respondents who adopted and regularly went for ANC during the previous pregnancy i.e. once (8.2%), twice (30.0%), and thrice (61.8%). Among Hindus, 74.1% of respondents received three ANC checkups, 16.4 % received twice and 9.5% received once during the whole pregnancy period. Whereas, 35.1% Muslim women received three ANC checkups, 59.3 % received twice and 5.6 % received once during the pregnancy.

Table 5.26: Religion-wise Distribution of Frequency of Utilization of Antenatal Care (ANC) Services in Previous Pregnancies among Respondents in Aligarh District

Frequency of Utilization of ANC Services	Hindu	Muslim	Total
Once	11 (9.5%)	3 (5.6%)	14 (8.2%)
Twice	19 (16.4%)	32 (59.3%)	51 (30.0%)
Thrice	86 (74.1%)	19 (35.1%)	105 (61.8%)
Total	**116 (87.9%)**	**54 (81.8%)**	**170 (100%)**

Source: *Based on Field Survey.*

Thus from the above two table, it is apparent that not only the higher percentage of Hindu Women have gone for ANCs but also the Hindu women have more number of ANC Checkups in comparison to Muslim women.

Sources of Antenatal Check Ups

Effective utilization and distribution of ANC is crucial and dependent on the accessibility to various centers, government and private hospitals. The table below 5.27 pertains information on the sources of ANC services available to expected mothers. Among Hindus, the distribution of place of receiving ANC at CHC, PHC, Sub-Centre, Private Practitioners, Other places was 6.9%, 6.9%, 31.0%, 20.7%, and 34.5% respectively. Among Muslims, maximum women received ANC services at Sub-Centre (44.5%). Other places of ANC checkups i.e. CHC, PHC, Private Practitioners and Other places provided services to 3.7%, 7.4%, 11.1% and 33.3% of Muslim women respectively.

Table 5.27: Religion-wise Distribution of Place of Antenatal Care among Respondents in Aligarh District

Place of ANC Check-ups	Hindu	Muslim	Total
CHC	8 (6.9%)	2 (3.7%)	10 (58.8%)
PHC	8 (6.9%)	4 (7.4%)	12 (7.1%)
Sub-Centre	36 (31.0%)	24 (44.5%)	60 (35.3%)
Private Practitioner	24 (20.7%)	6 (11.1%)	30 (17.7%)
Other Places	40 (34.5%)	18 (33.3%)	58 (34.1%)
Total	**116 (100%)**	**54 (100%)**	**170** (100%)

Source: *Based on Primary Field Survey.*

Thus the percentage of women preferring public health care system for ANC comprising of CHC, PHC and Sub-Center is higher amongst the Muslim women (50.5%) than the Hindu Women (44.9%). On the Other hand, 20.7% of the Hindu women have gone to the private practitioners for seeking ANC as compared to the 11.1% of the Muslim women. However, it was quite alarming to see the data related to the visit of respondents for ANC checkups at Other places comprising of traditional medical practitioners, quacks, relatives specially Mother-in-law, friends etc. which stands at 34.5 % and 34.1% for Hindu and Muslim women respectively.

Types of Ante Natal Services Received

The ANC checkups can be beneficial in the safe outcome of the pregnancy only if the women receive proper and adequate assured services under ANC services during their visit to the health facilities. The table 5.28 shows the percentage of women receiving various ANC services during their last pregnancy. The percentage of Hindu women who have had their BP measured stands at 81.8%, blood tested at 24.2%, and receiving 100 IFA tablets at 54.5%. Likewise, 87.9% of the Hindu women have reported to have received the TT injections and 21.2% have had their urine tested to rule out any possibility of infection and sugar in the urine. Also 81.8% have said that their weight was taken thrice during the ANC checkups.

Table 5.28: Religion-wise Distribution of Type of Services Received from Place of ANC among Respondents in Aligarh District

Basic Services Received	Hindu	Muslim
BP Measured	108 (81.8%)	42 (63.6%)
Weight Taken	108 (81.8%)	46 (69.7%)
Urine Test	28 (21.2%)	10 (15.2%)
Blood Test for Anaemia	32 (24.2%)	8 (12.1%)
TT injection	116 (87.9%)	50 (75.8%)
IFA Tablet	72 (54.5%)	44 (66.7%)

Source: *Based on Primary Field Survey.*

For the Muslim women, 63.6% had their BP measured, 87.9% received TT injections and 66.7% received IFA tablets. Likewise 69.7%, 15.2%, and 12.1% of them had their weight measured, urine tested and blood tested respectively during three ANCs.

Main Reasons for not having Ante Natal Care Services

Apart from receiving the basics of ANC by the respondents, yet various other factors were held responsible for the women lack of accessibility and availability regarding the benefits of ANCs. The data presented in the table showed that out of the total 198 women, 14.15 % (n=28) did not utilized the ANC services provided by the state. The reasons for not having ANC services is presented in Table 5.29. The most important reason cited by both Hindu and Muslim women for not having ANC checkups is the attitude i.e. "Did not Feel Necessary".

Table 5.29: Religion-wise Distribution of Main Reasons for Not Availing ANC among Respondents in Aligarh District

Reasons for Lack of ANC	Hindu	Muslim	Total
Lack of Knowledge	0	2 (16.7%)	2
Did not Feel Necessary	8 (50%)	6 (50%)	14
Unaffordable Cost	0	0	0
Distance	0	1 (8.3%)	1
Low Quality of Service	1 (6.3%)	0	0
Lack of Time	4 (25%)	0	4
Others	3 (18.7%)	3 (25%)	7
Total	**16 (100%)**	**12 (100%)**	**28**

Source: *Based on Primary Field Survey.*

Half of the total Hindus as well as Muslim women have said that they did not feel necessary to have antenatal checkups. Lack of adequate knowledge regarding ANC and distance of the health facilities were also found to be responsible factor as it was evident that in the case of Muslims 16.7% cited the former reason and 8.3% the later. Low quality of services and paucity of time were cited as another reason by 6.3% and 25% of Hindu women only. Some other factors were also responsible for not having ANC checkups by 18.7% and 25% of Hindu and Muslim women.

For mobilizing expected mothers to avail the MCH services, NRHM initiated various activities like VHND, Home Visit by ASHA etc. However, the data from the empirical field study revealed that these initiatives are not reaching to its beneficiaries across the religion.

Delivery Care Utilization Patterns

Like Antenatal Care, the care at the time of delivery i.e. natal period is equally important. Maternal mortality and foetal losses could be reduced considerably if women undergo delivery in institutional setup and if not then at least in clean and hygienic conditions at home under the supervision of a trained medical practitioner. Under NRHM, strategic interventions to improve the institutional deliveries specially provision of round the clock delivery services in all the CHCs and PHCs were envisaged by placing at least 3-5 Staff Nurses and 1 trained practitioner in these facilities.

Place of delivery of the Child

The place of delivery is also considered as an important criteria in determining the safety and survival of new born and maternal health. Usually, delivery takes place at home, government hospitals, and private hospitals. Out of the total 198 respondent, 71.7% (n=142) delivered their last child in institutional setup while 28.3% (n=55) delivered their last child at home. Among those who delivered in a health institution, 69% (n=98) delivered in a public health facility and the rest 37% (n=44) delivered in a private facility. Despite improvement in utilization of institutionalized delivery services, still there is lacuna in the initiatives taken under NRHM.

The data pertaining to the place of delivery of the last born child during the 5 years period preceding the time of survey is shown in Table No. 5.30. Out of 132 Hindu women, 27.3% of them delivered their baby at home, whereas, the remaining 72.7% had institutional deliveries. Out of Institutional deliveries, 62.5% of the Hindu women had delivered in the public health facilities and the remaining 37.5% in the private hospitals. In comparison, 30.3% of the Muslim women had home deliveries and the remaining 69.7% had institutional deliveries. Out of the institutional deliveries, 82.63% of the birth took place in public health facilities and the percent of the births in private hospital was 17.37%.

Table 5.30: Religion-wise Distribution of Place of Child Delivery Reported by Respondents in Aligarh District

Religion	Place of Delivery				Total
	Home	Sub Centre	Govt. Hospital	Private Hospital	
Hindu	36 (27.3%)	8 (6.1%)	52 (39.4%)	36(27.3%)	**132 (100%)**
Muslim	20 (30.3%)	8 (12.1%)	30 (45.5%)	8 (12.1%)	**66 (100%)**
Total	**56 (28.3%)**	**16 (8.1%)**	**82 (41.4%)**	**44 (22.2%)**	**198 (100%)**

Source: *Based on Primary Field Survey.*

The data clearly suggest that majority of women went for institutional delivery however still a good number of women preferred home delivery whether Hindu or Muslim women. Women who opted for institutional delivery among Hindus 39% delivered in public health facility and 27.3% relied on private facility with difference of 12 points and this difference is widened to 33 points in case of Muslim women, 45.5% Muslim women delivered in health facility and 12% in private health facility.

There are few questions emerging from this analysis which could be further explored, is this manifestation of trust exhibited by Muslim women towards the MCH services and delivery facilities provided under NRHM or is this non affordability of private health care facilities by Muslim women.

Reasons for Non-Institutional Delivery

Existing literature review reveals several key barriers to institutional delivery in rural community, such as the perception that institutional delivery is not necessary and is only a last resort strategy (Chowdhury, Gazi, & Goodburn, 1995), traditional norms and beliefs of the community (Barnett, et al., 2006) and a pregnant woman's lack of autonomy and decision making power (Bloom, Wypij, & Gupta, 2001). The patriarchal structure existing in Northern India including UP also restrict women's autonomy to seek health services and access to emergency care also.

The poor quality of care and services at public health facilities have also been cited as important reasons by woman and their significant others for not seeking facility based care for delivery purpose (Deepthi, Khan, & Hazra, 2012).

The present data reflects that families are availing institutional services for delivery as out of the total 198 women, 71.7 % (n=142) delivered their last child in institutional setup while 28.3 % (n=55) delivered their last child at home. Though families are adopting institutional deliveries yet there are various reasons cited for non-institutional delivery. The researcher has taken certain important variables such as money constraints, Family decisions, distance of hospitals, lack of importance of Institutional Delivery were taken as the reasons cited by the respondents for non-institutional delivery. Table 5.31 showing key reasons for home delivery, as reported by the respondents who delivered at home (n=55) shows that family decision (65.45%) and lack of importance of institutional delivery (65.45%) are main reasons for home delivery followed by the distance of health facility (21.81%), the money constraints (16.37%) and other (21.81%).

Table 5.31: Religion-wise Distribution of Main Reasons for Non Institutional Delivery among Respondents in Aligarh District

Religion	Money Constraints	Family Decision	Distance of Hospital	Lack of Importance to Institutional Delivery	Other Reasons
Hindu	4 (7.28%)	28 (50.90%)	4 (7.27%)	24 (43.63%)	4 (7.28%)
Muslim	5 (9.09%)	8 (14.54%)	8 (14.54%)	12 (21.82%)	8 (14.54%)
Total	9(16.37%)	36(65.45%)	12(21.81%)	36(65.45%)	12(21.81%)

Source: *Based on Primary Field Survey.*

Across religion, the data depicts that among Hindus, family decision (50.90%) and lack of importance of institutional delivery (43.63%) were main reasons for home delivery. On the contrary, among Muslims, lack of importance of institutional delivery (21.82%) followed by the distance of hospital (14.54%) and family decision (14.54%) were the main reasons. Thus, the main barriers to institutional delivery are perception about having normal delivery, cost, distance and transportation. These barriers are also reflected in their narratives:

"Home delivery is easier as it cost very little money. It cost me only ₹ 200 and some more money on medicine. At the hospital, I have to give more than ₹ 200 to the lady doctor (meaning by Staff Nurse) and some more amount for getting ₹ 1400 from the government (meaning by JSY amount). I am not greedy for Rs.1400". (A women from Village Cherat)

Instances of Abortion

The outcome of any pregnancy could be spontaneous abortion, induced abortion, still birth and live birth. In recent years, many cases have been reported regarding the practice of induced abortion or may be referred as sex-selective abortion as a mechanism for having male child and avoiding the birth of girl child also. However, collecting data related to induced abortion which generally happen in the initial months of conception is always very difficult. Therefore, for the present survey, the researcher has clubbed both induced and spontaneous type of abortion into a single category i.e. abortion.

Table 5.32: Religion-wise Distribution of Incidence of Abortion among Respondents in Aligarh District

Outcome of the Pregnancies	Hindu	Muslim	Total
Live birth	117 (88.6%)	61 (92.4%)	178 (89.9%)
Instance of Abortion	15 (11.4%)	5 (7.6%)	20 (10.1%)
Total	**132 (100%)**	**66 (100%)**	**198 (100%)**

Source: Based on Primary Field Survey.

Table 5.32 shows that 10.1% of surveyed women who became pregnant during last five years reported the incidence of abortion while majority (89.9%) reported live birth. None of them reported still birth. The inter-religion percentage of incidence of abortion was more among Hindus (11.4 %) than Muslims (7.6%).

Period of Stay at the Place of Delivery

Table 5.33: Religion-wise Distribution of Period of Stay at Place of Delivery of Respondents in Aligarh District

Place of Delivery	Duration of Stay	Frequency	Percent
Sub Centre	**12-24hrs**	12	75.0
	25-48hrs	4	25.0
	Total	16	100.0
Govt Hospital	**12-24hrs**	52	63.4
	25-48hrs	22	26.8
	More than 2 days	8	9.8
	Total	82	100.0
Private Hospital	**25-48hrs**	4	9.1
	More than 2 days	38	86.4
	More than 1 Week	2	4.5
	Total	44	100.0

Breast Feeding : NRHM advocates optimal infant feeding practices which includes initiation of breastfeeding within two hour of birth and exclusive breastfeeding for first 6 months as an important step in curbing the IMR in India. It is also an open fact that the practice of immediate initiation of breastfeeding without squeezing the first yellow milk after delivery increases the immunity of the newborn and its survival (Laroia & Sharma, 2006; Fosu-Brefo & Arthur, 2015)

Basic Breastfeeding Information

As far as the overall breastfeeding is concerned (Table 5.34), among the Hindu women and Muslim women who gave live births during the five years period

preceding the survey, 100% of Hindu women and 97% of Muslim women have been found to have breastfed their newborns. It was quite endearing to find that breast feeding is a universal and common practice among both the community across all background characteristics. NFHS-3 data also indicate that in 2005-06, the practice of breastfeeding was almost universal (96%) in Uttar Pradesh (UP).

Table 5.34: Religion-wise Distribution of Breastfeeding of New Born by Respondents in Aligarh District

Religion		Frequency	Per cent
Hindu	Yes	132	100
	No	0	0
	Total	**132**	**100**
Muslim	Yes	64	97
	No	2	3
	Total	**66**	**100**

Source: *Based on Primary Field Survey.*

Initiation of Breast Feeding

Early breastfeeding is defined as the initiation of breastfeeding within two hour of birth. Regarding the appropriate and timing of breastfeeding (Table 5.35), it has been found that 46.2% of the Hindu women and 57.6% of the Muslim women breastfed their newborn within 2 hours of birth. After that, 25% and 33.3% of Hindu and Muslim women respectively breastfed their child on the day of delivery but after 2 hours of birth. 28.8% Hindu women and 6.1% Muslim women initiated breastfeeding after 24 hours. The data supports that the rate of initiation of early breast feeding within 2 hours of birth is more prevalent among Muslim women than Hindus

Table 5.35: Religion-wise Distribution of Initiation of Breastfeeding of the New Born by Respondents in Aligarh District

Religion	Status of Initiation of Breast Feeding after Delivery				Total
	Not Applicable	Within Two Hours	2-24 hours	Afterwards	
Hindu	0 (0.0%)	61 (46.2%)	33 (25.0%)	38 (28.8%)	132 (100.0%)
Muslim	2 (3.0%)	38 (57.6%)	22 (33.3%)	4 (6.1%)	66 (100.0%)
Total	**2 (1.0%)**	**99 (50.0%)**	**55 (27.8%)**	**42 (21.2%)**	**198(100.00%)**

Source: *Based on Primary Field Survey*

Though the data revealed the fact that women respondents followed the breast feeding pattern but still few were ignorant about the benefit of colostrum. As both Hindu and Muslim women who breastfed their newborn, 15.3% and 7.6% of them squeezed out the first milk (colostrum) from their breast before initiating breastfeeding the babies (table 5.36). WHO also recommended that the first breast milk should be given to the child rather than squeezing it out from the breast because the first milk contains colostrum, which acts as a natural immunity booster for the newborn.

Table 5.36: Religion-wise Distribution of Removal Yellow Milk (Colostrum) by Respondents in Aligarh District

Religion	Removal of Yellow Milk			Total
	NA	Yes	No	
Hindu	0 (0.0%)	20 (15.3%)	111 (84.7%)	131 (100.0%)
Muslim	2 (3.0%)	5 (7.6%)	59 (89.4%)	66 (100.0%)
Total	**2 (1.0%)**	**25 (12.7%)**	**170 (86.3%)**	**197 (100.0%)**

Source: *Based on Primary Field Survey.*

Effect of Place of Delivery on initiation of Breast feeding

As substantiated by many health care practitioners and doctors that early initiation of breastfeeding within two hour of delivery is very important as it reduces neonatal mortality. It has been also found that a number of practices during early postnatal period may affect initiation of breastfeeding and one such factor that affect breastfeeding initiation includes the place of delivery. However, the favourable environment consciously or unconsciously effects the initiation of early breastfeeding.

The data presented in the below table 5.37 provides the information on the effect of the place of delivery on initiation of the breastfeeding. In order to find a correlation between early initiation of breast feeding and place of delivery, four important places were taken as variables such as house/home, Sub Center, PHC & CHC, Government hospital and Private Hospitals. Among Hindus, out of 61 infants who were breastfed within 2 hours, 75.4% were delivered in government hospitals. Few respondents who delivered baby at home i.e. 42.4% initiated breast feeding after 2 hours but within 24 hours. However, there were respondents who were ignorant about the benefits of immediate breastfeeding as 57.9% respondents delivered the baby at home and initiated breast feeding after 24 hours. Even those respondents i.e.

42.1% who delivered baby at private hospitals also initiated breast feeding quite later. As among Muslims, it was found that 57.9% respondents who delivered infants at government hospitals initiated breast feeding within the 2 hours of delivery, which was followed by 26.3% respondents initiating breast feeding of infants delivered at home. However, it was also found that 75% respondents who gave birth at private hospitals initiated breast feeding after 24 hours. Very few respondents i.e. 36.4% who delivered baby at government hospitals initiated breast feeding after 2 hours but within 24 hours. Thus it is apparent from the table that maximum new births at government hospitals was breastfed within 2 hours.

Table 5.37: Religion-wise Distribution of Effect of Place of Delivery on Initiation of Breastfeeding among Respondents in Aligarh District

Religion		Place of Delivery				Total
		Home	Sub Centre	Govt. Hospital	Private Hospital	
Hindu	Within Two Hours	0 (0.0%)	4 (6.6%)	46 (75.4%)	11 (18.0%)	61 (100.0%)
	2-24 hours	14 (42.4%)	4 (12.1%)	6 (18.2%)	9 (27.3%)	33 (100.0%)
	Afterwards	22 (57.9%)	0(0.0%)	0 (0.0%)	16 (42.1%)	38 (100.0%)
	Total	**36(27.3%)**	**8 (6.1%)**	**52 (39.4%)**	**36 (27.3%)**	**132 (100.0%)**
Muslim	Not Applicable	0 (0.0%)	0 (0.0%)	0 (0.0%)	2 (100.0%)	2 (100.0%)
	Within Two Hours	10 (26.3%)	6 (15.8%)	22 (57.9%)	0 (0.0%)	38 (100.0%)
	2-24 hours	9 (40.9%)	2 (9.1%)	8 (36.4%)	3 (13.6%)	22 (100.0%)
	Afterwards	1 (25.0%)	0 (0.0%)	0(0.0%)	3 (75.0%)	4 (100.0%)
	Total	**20(30.3%)**	**8 (12.1%)**	**30 (45.5%)**	**8 (12.1%)**	**66 (100.0%)**

Source: *Based on Primary Field Survey.*

Mean Reasons for Delay in Initiating Early Breastfeeding

The study also attempted to reveal some barriers for the delay in early breastfeeding. The main reason, as reported by 62% women, was the belief that breast milk is not produced soon after delivery. 13.5 % women reported post-delivery cleaning as the second main reason for the delay in early breastfeeding. Post-delivery cleaning includes many factors like delay in cord cutting, many elders believe that without bathing the newborn, he/she cannot be fed and many more. Another reason, often reported by women (9.3%) who delivered in an institution especially at private hospitals was that the mother was too weak to hold child in appropriate position

essential for breastfeeding. The other reasons were elder's advice, child not given to mother and delivery complications reported by 10.3%, 8.2% and 6.2% of women respectively (Table 5.38).

Table 5.38: Religion-wise Distribution of Reasons for Delay in Initiation of Breastfeeding by Respondents in Aligarh District

Reasons for the Delay	No. of Women (n=97)
Delivery Complications	6 (6.2%)
Child not given to mother	8 (8.2%)
Women too weak to hold child	9 (9.3%)
Post-delivery cleaning took place	13 (13.5%)
Elder's Advice	10 (10.3%)
Milk does not come soon in mother's breast	60 (61.9%)

Source: *Based on Primary Field Survey.*

Post-Natal Care Utilization Patterns

Lack of adequate follow-up of the mothers after delivering the baby is the main reason for the slow improvement in MMR. The absence of proper follow-up services and lack of utilization of the available Post-Natal Care services at village level is the major concern for NRHM. In this section, an attempt is made to locate the post-natal care services available in the community and their utilization by the villagers.

Attendance during Post-Natal Period by Service Providers

In case of home delivery, as per the government prescribed norm, the concerned ASHA of the village should visit the home, where the women delivered the baby, within 24 hours of delivery. In order to check the regularity of the ASHA, data was gathered, tabulated and analysed as presented in table 5.39 gives a clear picture of ASHAs accountability and responsibility. It is apparent from the data that 100% of the home delivery across religion was visited by the concerned ASHA of the surveyed household. It was further reported that those households where 55.6% of home deliveries of Hindu Women and 15% of home deliveries of Muslim women took place, ASHA visited those households as per the prescribed norm i.e. within 24 hours. However, it was also found that more households were 44.4% of the new born of Hindu women and 85% of the new born of Muslim women took place, ASHA attended them after a day.

Table 5.39: Religion-wise Distribution of ASHA's Visit in Case of Home Delivery by Respondents in Aligarh District

Religion		Frequency	Percent
Hindu	Within 24 hours	20	55.6%
	Within First Week	16	44.4%
	Total	**36**	**100.0%**
Muslim	Within 24 hours	3	15.0%
	Within First Week	17	85.0%
	Total	**20**	**100.0**

Source: *Based on Primary Field Survey.*

In case of institutional delivery at any government health facility, as per the norm, the mother and her new born should remain within the health facility for at least 48 hours after delivery so that the appropriate Post-Natal Care services should be provided and in case of need, emergency services may also be provided to the mother & her child. Below Table 5.40 exhibit the duration of stay at the place of delivery. The data gathered shows only 25% of the mother and child stayed at Sub-Center for 48 hours after delivery and in other government hospitals, 26.8% were found to be staying for 48 hours after the delivery. Whereas, in private hospitals 86.4% of mother and child remained within the health facility for more than 48 hours after the delivery.

Table 5.40: Religion-wise Distribution of Period of Stay at the Place of Delay among Respondents in Aligarh District

Place of Delivery	Duration of Stay	Frequency	Percent
Sub Centre	**12-24hrs**	12	75.0
	25-48hrs	4	25.0
	Total	**16**	**100.0**
Govt Hospital	**12-24hrs**	52	63.4
	25-48hrs	22	26.8
	More than 2 days	8	9.8
	Total	**82**	**100.0**
Private Hospital	**25-48hrs**	4	9.1
	More than 2 days	38	86.4
	More than 1 Week	2	4.5
	Total	**44**	**100.0**

Source: *Based on Primary Field Survey.*

It is apparent from the above table that almost 70% of the women who had delivered in public health institution were discharged from the facility within 12 hours. Many of them were sent directly to home from labour room after delivering the baby. One of the women claimed

"……the lalla (baby boy) was born at 2 pm and at 5 pm, Bahanji (ANM) told my husband to shift me back to home."

During the survey conducted in this study with ASHA, they too revealed that women were generally discharged on the same day of delivery. Thus early discharge from the facility acts as an important barrier in providing and receiving PNC services.

Accessibility of Health Services

Almost all the respondents in the study area were knowing the existence of Sub-Center in their village and the concerned ASHAs and ANM. Regarding accessibility of health services, only 40.4% and 51.5% of the women respondents visited Sub Center and PHC respectively (Table No. 5.41).

Table 5.41: Religion-wise Distribution of Visit to Sub-Centre and PHC by Respondents in Aligarh District

Response	Sub-Center		PHC	
	Frequency	Percent	Frequency	Percent
Yes	80	40.4	102	51.5
No	118	59.6	96	48.5
Total	**198**	**100**	**198**	**100**

Source: *Based on Field Survey.*

It was further analyzed that more number of Hindu women respondents (42.4%) visited the Sub-Center in comparison to Muslim women (36.4%) whereas more number of Muslims (63.6%) visited PHCs in comparison to Hindu respondents (45.5%).

Majority of the respondents visited the Sub-Centre on foot. Those who did not visited Sub-Center reported different reasons for instance establishment of Sub-Center at the end of the village, lack of efficacy of the medicines distributed at the center, etc. However, none of the women respondents faced any accessibility problem in getting services from ASHAs. Due to non-staying of ANM in their concerned residential quarters, the villagers cannot able to access her services in the night or odd hours.

The major reasons reported by 48.5% of the total respondents who never visited PHC for their health problems were following; distance (12.1%), lack of qualified doctors (9.1%), positive attitude towards private practitioners (12%) etc. However, almost all the respondents were unsatisfied with the quality of services being provided at the center.

Knowledge about Service Providers

Table 5.42 presents the number of respondents knowing the name of the service provider at village level i.e. ASHA & ANM. Out of total respondents, 72.2% and 32.3% of the respondents know the name of their concerned ASHA and ANM respectively.

Table 5.42: Religion-wise Distribution of Knowledge about the Names of the Service Providers among Respondents in Aligarh District

	Knowledge about the name of the concerned ANM		Knowledge about the name of the concerned ASHA		
Religion	Yes	No	Yes	No	Total
Hindu	44	88	96	36	132
	33.3%	66.7%	72.7%	27.3%	100.0%
Muslim	20	46	47	19	66
	30.3%	69.7%	71.2%	28.8%	100.0%
Total	**64**	**134**	**143**	**55**	**198**
	32.3%	**67.7%**	**72.2%**	**27.8%**	**100.0%**

Attitude of the Beneficiaries towards Service Providers

The attitude of the beneficiaries towards the public service providers with especial reference to ASHA and ANM, was also assessed in this study. It was found that almost all the ASHAs visited the houses of the beneficiaries irrespective of their religion. However, the data exhibited in the below table 5.43 showed that the visits made by ASHA to the 29.8% of the sampled household was not as per the prescribed norm.

Table 5.43: Religion-wise Distribution of Frequency of ASHA's Home Visit to Respondents Residence in Aligarh District

Religion	Frequency of ASHA's Home Visit				
	NA	Less than three times	Thrice	More than Three Times	Total
Hindu	0	44	46	42	132
	0.0%	33.3%	34.8%	31.8%	100.0%
Muslim	2	15	17	32	66
	3.0%	22.7%	25.8%	48.5%	100.0%
Total	**2**	**59**	**63**	**74**	**198**
	1.0%	29.8%	31.8%	37.4%	100.0%

Source: *Based on Primary Field Survey.*

Thus, it is evident from the above description that NRHM proved to be catalytic agent in promoting and advancing health of women in the age group 18-34, however if we analyze this achievement in terms of the goals of NRHM then definitely there are lot to be done and we are yet to achieve universalization of ANC, PNC services, institutional delivery, early breast feeding etc. But at the same time we cannot undermine the efforts of NRHM. The achievement of NRHM should be seen in the wider socio-economic condition of women. Literacy is a robust indicator which has profound impact on women's health and it is observed that with rise in literacy level of women ANC, PNC and institutional delivery also increases but everything depends on literacy is also trivialization of women's life and ignoring their socioeconomic positioning in society which profoundly influence women' s health and their health seeking behavior.

Conclusion

CONCLUSION

The central theme of the study revolves around the evaluation of NRHM to find out the availability and access of health services provided under NRHM by Public Health Care Delivery system as well as the utilisation of these services by the beneficiaries especially married women in the age group of 18-34 with at least one live birth and the effect of some selected background variables on their health behaviour in Majority and Minority Concentrated Villages of Jawan Block of Aligarh. This section recapitulates the findings of the study based on the results of the empirical study made by the researcher.

Need for the Study

NRHM a flagship programme launched by GOI in 2005 to provide accessible, affordable and accountable quality health services to the poorest households in the remotest rural regions. The programme intended to bridge the existing gulf in rural health care services which got operationalized through architectural correction in the public health system by introducing a cadre of Accredited Social Health Activists (ASHA), strengthening of health infrastructure, and scaling up the services provided to the population at village level. It's been nearly a decade since launching of this unique and prominent programme and it would be extremely important to analyse and evaluate the outcome of NRHM, to gauge whether the program is worthy of the epithets attached to it. In this direction the present study is extremely valuable as it aimed to evaluate the implementation and outcome of NRHM in minority and majority concentrated villages of district Aligarh, Uttar Pradesh. The study intended to provide the micro level depiction of the policy prescription and also attempted to comprehend the attitude of the beneficiaries' i.e. married Hindu and Muslim women in the age group of 18-34 of minority and majority concentrated villages towards health care services provided at village and block level under NRHM. The study would help the policy makers in understanding the transformation that NRHM has brought in the health profile of the community. It would also help in comprehending the imparity in policy prescription and the existing health care services available in villages.

Objectives

This study has three fold objectives:

a. To investigate into NRHM's policy prescription about infrastructural facilities and existing realities.

b. To examine the availability of Infrastructural facilities and their operation in minority and majority concentration villages in order to find out the inclusion or exclusion of Minority in health care services.

c. To assess the outcome or impact of the programme in villages by collecting information from household.

Research Questions

The fundamental questions taken under this study are:

A. What are the notable transformations in rural health care and delivery system due to NRHM?

B. How was NRHM executed and what are its achievements / feats?

C. Whether these achievements are distributed equally across religious groups?

Methodology

The present study mainly tries to evaluate the implementation and outcome of National Rural Health Mission (NRHM), a mega scheme launched by GOI in 2005, in minority and majority concentration villages of district Aligarh, Uttar Pradesh. Since this study aims at exploring the implementation and outcome of NRHM at micro level, the design of the study is descriptive and exploratory. In this study, multi-stage sampling design using convenience and purposive sampling methods for selecting a representative sample. Out of twelve block of the district, one block namely Jawan is selected on the basis of convenience. In the next stage, two PHCs, out of four were selected and then 4 Sub-Centres out of 30 were selected insuring representation of minority villages under at least one Sub-Center. Twenty villages comprising of 10 minority concentrated villages and 10 majority concentrated villages were also chosen with the help of key informants and the available data. Out of these twenty selected villages, 198 respondents were purposively selected i.e. Hindu and Muslim women in

reproductive age group (18-34 years) with at least one live birth within five years for data collection.

Sources of data

This study is primarily based on the primary data collected from Jawan Block of Aligarh District, Uttar Pradesh during the period February 2015 to April 2015 using a multi stage random sampling method. For accessing the availability of infrastructure, manpower and prescribed health services at public health institutions under NRHM, 4 Sub-Centres, 2 PHCs, and 1 CHC were surveyed and compared with the IPHS norm prescribed by the Government of India. In addition, altogether 198 respondents were surveyed using well-structured and pretested schedule for accessing the utilisation of the services provided under NRHM and the health seeking behaviour across 10 Minority and 10 Majority Concentrated Villages. Out of 198 respondents, 132 were Hindu and the rest 66 were Muslim respondents. The married women in reproductive age group (18-34 years) with at least one live birth within five years preceding the survey was considered as the sampling unit for the data collection.

The study is presented in five chapters excluding introduction and conclusion. Out of five chapters of the thesis, the first chapter provides the review of literature pertaining to the major concepts used in the study and implementation and outcome of various health policies, programmes, and schemes of health mainly in post independent India.

Many studies and surveys have been conducted by individuals and different national and international research organisations to evaluate implementation and outcome of National Rural health Mission (NRHM) in different parts of the country. Some of these reports reviewed in Chapter II which explicitly show mixed impact of NRHM on different dimension of health indicators. Some studies find out its positive impact on different health indicators like Infant Mortality Rate (IMR), Maternal Mortality Rate (MMR), Immunization, institutional delivery whereas others show dismal performance of the programme. In a nutshell the program has not achieved the prescribed goals as per various studies and surveys. Similarly our findings show a wide gap between NRHM's policy prescription and implementation at the ground level which have been enumerated by assessing access, physical infrastructure, medical equipment, man-power, transportation, drug supplies and information

technology with reference to the three levels of healthcare system provided by the mission. This is presented in Chapter IV entitled "Implementation of NRHM: Policy Prescription and Existing Realities". The gaps identified at each level are as follows:

Sub-Centers

- The uneven distribution of the Sub-Centers has pushed forth many other problems like Baroli Sub-Centers has to see the population as high as 10014 and there are rough and *kachha* roads leading to some sub-centers like Manzorgarhi and Tamkoli.
- The condition of the Sub-Center buildings except Manzorgarhi was pathetic, some lagging the boundary, proper rooms, ramps for trolley use, sign boards etc.
- There was nowhere any means of uninterrupted power supply and water facility according to the IPHS norms in any of the Sub-Centers.
- There are problems with transportation, drug storage and supplies, residential arrangement for male workers and transportation at almost all the Sub-Centers studied.
- The manpower is seriously affected by the non-availability of the male health worker, *Safai Karamchari*, Additional ANM. However the ANMs were found at all the Sub-Centers as per IPHS norm.
- These incomplete facilities at these centers affect the ante-natal and post-natal care, thereby affecting the MMR and IMR.
- The feedback mechanism through VHSCs for the proper functioning of these important health centers at the elementary level is also influenced by the localized politics.

Primary Health Center

- Being an important point to address the health problems, the situation of the PHCs is comparatively better than the Sub-Centers. These centers have helped the country to slowly shrink the MMR and IMR which have been one of the important goals of the NRHM document. But few of the problems still have been identified there.

- The two PHCs selected, Baroli and Cherat, cater the medical needs for 44281 and 422909 persons as against 30000 mentioned by the IPHC document.
- At both the centers, the infrastructure has also many loopholes as there is neither any proper arrangement for continuous water supply nor was any minor OT and equipped labour room found, which has many ramifications especially on the women health requirements.
- The residential facility being important for the medical staff was found in tatters at both the centers.
- The manpower at these centers is 8 and 7 respectively which falls even below the half mark as is mentioned in the IPHC norm (18).
- Among the unsatisfactory equipments of facilities, the Baroli PHC has affected water supply, electricity and oxygen facility. However the story is same at Cherat except it has proper electric supply.
- The supervision is somewhat satisfactory which has in a way been a silent force to push for the improvements wherever badly needed.

Community Health Center

- The CHC Jawan caters medical needs of the population as high as 211390 as against the IPHC norm of 120000. It also acts a referral unit for the 4 PHCs and 30 Sub-Centers which must be 20 according to the norms. This had led to overcrowding of the CHC affecting the facilities, infrastructure and shortage of the manpower.
- The facilities like blood banking, non-functional emergency and casualty room were affected at the center.
- However, the like availability of electricity supply, power backup at the time of emergencies, computer with internet facility, telephone facility and transportation facilities were provided at the center satisfactorily.
- The assured services like Surgery, Pediatrics and Ophthalmology were affected by the unavailability of the medicos. However, the availability and punctuality of these medical staffs gives birth to many other problems.

- Many times the unavailability of the paramedics forces the available staff to perform the other jobs they are unskilled in.
- The X-ray and Ultrasound facility were however found non-functional at the center, whereas ECG, blood storage, lab and referral transport was up to the mark.
- Regarding manpower there are 6 specialists as against 11 and 16 nursing and para-medicos instead of 36 by the NRHM norm.
- Besides, the localized politics has some effect in the functioning the especially at the lower levels of imparting the healthcare to the rural areas.

Based on these findings, we can conclude that the objectives and the targets of the NRHM have been achieved to some considerable mark. However, these achievements of the program in district Aligarh must be seen in the backdrop of socio-economic condition of the people presented in Chapter V entitled "NRHM and Maternal Health in Majority and Minority Communities".

A total of 198 respondents in reproductive age group (18-34 years) with at least one live birth within five years were surveyed for analysing the health condition and their attitudes towards health care services in majority and minority concentrated villages. Majority of the respondents belonged to the age group of 25-30. As far as the age of marriage is concerned, 15% of Hindu women were married before the age of 18, and two third of the Muslim women i.e. 69.7% were married before attaining age of 18.78% and 81.8% Hindu and Muslim respondents were from the rural background respectively. The data also portray that majority of the Hindu respondents live in nuclear family whereas prevalence of joint system is more among Muslims. , i.e. 54.5% were found to be living in the nuclear family, against the corresponding figure of 33.3% for the Muslim respondents. In the field of education, Hindu respondents were found to be better educated than the Muslims.

As far as the fertility of the Hindu and Muslim respondents is concerned, it was found that the average number of children was higher for Muslim respondents (3.06) than the Hindus (2.40). This figure is far from one of the goal of NRHM i.e. reducing Total Fertility Rate (TFR) to 2.1.The average number of female child was higher among Muslims i.e. 1.81 whereas, the corresponding figure for the Hindus was

1.21. 72% of the Hindu women and 13.3% of the Muslims women who desired for an additional child want their next child to be a male child. The son preference is particularly very high among the aged women. The education level of the women had been found to have little bearing on the son preference of the women. This sex preference may instigate wrong practices which hampers the success of NRHM by increasing the number of infant and maternal mortality.

Breastfeeding practice was almost universal among the Hindu and Muslim respondents, however, only 46.2% of the Hindu respondents and 57.6% of Muslim respondents had breastfed their child within 2 hours. The percentage of Hindu and Muslim respondents who breastfed their baby after squeezing out the first milk stand at 15.3% and 7.6% respectively. It was found that Muslim women were lesser likely to breastfeed their infants without squeezing out the first yellow milk than Hindu women. This may be considered as one of reasons for having lesser number of IMR among Muslims.

From the point of view of outcome of the last pregnancies, 88.6% and 92.4% of the pregnancies of Hindu and Muslim respondents respectively culminated in live births. The remaining percentages of pregnancies resulted in induced or spontaneous abortion. To achieve the MDG-4, a lot is needed under NRHM in this regard to make safe motherhood a reality.

Regarding utilization of Maternal and Child Health services, around 12.1% of Hindu respondents and 18.2% of Muslim respondents did not received Antenatal care during their last pregnancy. Among Hindus, 74.1% of respondents received three ANC check-ups, 16.4 % received twice and 9.5% received once. Whereas, among Muslim women, 35.1% received three ANC check-ups, 59.3 % received twice and 5.6% received once during the pregnancy. It is apparent that not only the higher percentage of Hindu Women had gone for ANCs but also the Hindu women had more number of ANC check-ups in comparison to Muslim women. The percentage of women preferring public health care delivery system for ANC was higher amongst Muslim respondents whereas, Hindu respondents generally preferred to avail ANC services from private practitioners. As far as the background variables are concerned, current age of the women and the number of children were inversely related to the antenatal check-ups.

The data pertaining to the place of delivery of the last born children during five years preceding the survey showed that many deliveries took place at home even after implementation of NRHM. The percentage of home deliveries was found to be higher for the Muslims (30%) than the Hindu (27%) respondents. However, the institutional deliveries in public health facilities were more among Muslims in comparison to Hindu respondents. As far as reasons for non-institutional delivery are concerned, around 50% and 44% of Hindu respondents cited 'family decisions' and 'lack of importance to institutional delivery' as the main factors. Among Muslim respondents, mixed factors were reported, however the main reason was lack of importance to institutional delivery (21.82%). The data also pointed out that the trained government service providers did not attended many of the births taken place at home. For instance 33.3% of the new born of Hindu women and 60% of the new born of Muslim women delivered at home were not attended by the respective ASHAs as per the norm.

In case of institutional delivery at any government health facility, the data exhibited a severe aberration from the prescribed norm. Only 25% of the respondents after delivering their baby at Sub-Centre remained in the premises for next 48 hours and in other government hospitals also only 26.8% were found to be staying for 48 hours after the delivery. Whereas, in private hospitals 86.4% of mother and child remained within the health facility for more than 48 hours after the delivery.

For curbing the IMR, NRHM also advocates early breastfeeding practice i.e. within 2 hours of delivery without squeezing the first yellow milk after delivery. The data exhibited that 46.2% of the Hindu women and 57.6% of the Muslim women breastfed their new born within 2 hours of birth. Among Hindu and Muslim women who breastfed their new-born, 15.3% and 7.6% of them squeezed out the first milk (colostrum) from their breast before initiating breastfeeding the babies Thus data supports that the practice of early breast feeding within 2 hours of birth without squeezing the first yellow milk after delivery is more prevalent among Muslim women than Hindus

The result of the cross tabulation show that place of delivery plays a vital role in providing a favourable environment for the initiation of early breastfeeding.

In this scenario, the achievement of the policy cannot be said hopeless. However to make the policy more effective, we think that certain steps should be considered as follows:

- At Sub-Center Level:
  - ✓ Sub-centers should be strengthened to respond to a much wider range of emergencies and curative needs also and provide at least very good first aid.
  - ✓ Redistribution of Sub-Centers as per the norm i.e. one per 5000 population should be made with the help of GIS software.
  - ✓ Realignment of non-functional Sub-Center to a better and convenient location with the active participation of villagers.
  - ✓ Positioning of Health Worker (Male) and the additional ANM as per the IPHS norm
  - ✓ The use of Mobile Vans with curative services, and under-served villagers on a fixed schedule with prior notification could be an additional strategy to reduce the gaps in outreach service delivery at village level.
- At Primary Health Care (PHC) Level
  - ✓ Formulating new provisions for assuring availability, the regularity, sustainability and the functioning of positioned medical officer and other doctors.
  - ✓ Proper recruitment and positioning of paramedical staffs as per the norms prescribed in IPHS.
  - ✓ Proper mechanism should be made to formalize the community participation in a comprehensive manner to achieve NRHM's key objective of decentralization.
- At Community Health Centre (CHC) Level
  - ✓ The total number of CHCs should be allocated as per population norms and not by administrative block wise.

- ✓ Incorporating new innovative ways and means to bridge the gap in the availability of manpower (including unwillingness of doctors to serve rural areas) and complementary services.
- ✓ Dissemination of the information about functions of CHC among the villages of the district through PRIs, ANMs and ASHA so that the people in the district can take full advantage of these well-equipped CHCs
- ✓ Incorporating new innovative ways and means to bridge the gap in the availability of manpower and complementary services (e.g. the services of Anaesthetists).

Limitation of the Study

The study is limited to only one block of district Aligarh and is based on a sample of data collected from a total of 20 villages representing the concentration of specific religious group. The replication of the study at different regions of India would enable better generalizability of the findings of the study.

Another limitation is the absence of health related unbiased data across religion at state and district level for exploring the complex link between identity and health status of the people. The study also relied on descriptive information provided by the service provider which might leave room for important details to be left out during interview

Future Research Perspective

The use of qualitative method of data collection to complement the method used in the present study is felt by the researcher at the end of the work. Therefore in any future research study of this kind related to evaluation of the implementation of any health policy or programme and to map the differentials of the attitude towards the services provided under the programme across religion, appropriate methods like group discussion, free listing, participant observation etc. must appropriately be used.

This study has shown that the age at marriage is lower among Muslim women. This aspect can be explored in greater length in future studies in relation to the fertility, contraceptive behaviour, problems related to institutional delivery etc.

Last but not the least, a comparative analysis of Hindu-Muslim differential in Maternal Health Care pattern on the basis of data collected from a Hindu dominated district and a Muslim dominated district with proportionate Hindu-Muslim population can form the basis for generalising the result of this study.

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Appendices

Annexure-1

STATE, COMMUNITY AND RURAL HEALTH IN INDIA: AN EVALUATION OF NRHM IN MAJORITY AND MINORITY CONCENTRATED VILLAGES OF ALIGARH DISTRICT

HOUSEHOLD SCHEDULE

(Confidential-For Research Purpose Only)

1.	Identifying Information				
1.1	Name of the Respondent		1.2	Name of the Village	
1.3	Name of the Gram Panchayat		1.4	Name of Sub Centre	

2.	Household Status and Household facilities		Coding Categories	
2.1	Religion		Hindu-1,Muslim-2, Other-3	
2.2	Name of the Caste		.....	
2.3	Name of the Category		Genral-1, OBC-2, SC-3, Don't Know-4	
2.4	Household Ownership		Own - 1, Rented- 2, Govt. Provided-3	
2.5	Household Size	No. of Males		
		No. of Females		
		Total		
2.6	Gender of the Head of the Household		Male – 1, Female- 2	
2.7	Nature of Household / Type of Family		Simple–1, Complex-2	
2.8	Type of house/habitation		Pucca-1, Semi-pacca-2, Kuccha-3	
2.9	No. of Rooms in the house		.....	
2.10	Separate Kitchen		Seperate-1, Not separate-2	
2.11	Toilet Facility		Yes – 1, No – 2	
2.12	If yes, type of toilet available		Service-1, Pit-2, Septic Tank-3, Dry Latrine- 4	
2.13	If yes, its location		Within House-1, Outside the house-2	
2.14	Location of Drinking Water		Within the Dwelling-1,Outside Dwelling but within Premises-2, Outside Premises-3	

2.15	Source of Drinking Water			Own-1, Public-2, Neighborhood-3, Community Source- 4	
2.16	Whether house is electrified?			Yes – 1, No – 2	
	If **YES**, for how many hours electricity is been supplied?			<12 Hours – 1, 12-18 Hours – 2, >18 Hours - 3	
	If **NO**, then Source of Light in the House			Oil Lamp-1, Lantern-2, Petromax – 3 Solar-4, Other - 5	
2.17	Source of fuel for cooking			Electricity -1, LPG/Biogas-2, Coal – 3, Kerosene- 4, Wood-5, Cow dung-6, Other-7	
2.18	Drainage system			Open-1, Closed-2	
2.19	Ownership of Agro land			.....	
2.20	Indebtedness?			Yes – 1, No – 2	
2.21	If **Yes**	1	Number of loans	.....	
		2	Source of loan[1]		
		3	Purpose of loan[2]	.....	
		4	Type of loan	Cash-1, Kind-2, Both-3	

3.	**Respondent's Background Information**		
3.1	Current age of the respondent	.....	
3.2	Current Marital Status	Married-1, Married but separated-2, Divorced-3, Widowed-4	
3.3	How old was you at the time of marriage	.....	
3.4	What was your childhood residence	Rural – 1, Urban - 2	
3.5	What is the highest grade of education you have completed	Illeterate-1, Only Literate-2, Below Primary – 3, Primary – 4, Middle School-5, Secondary – 6, Senior Secondary passed and above - 7	
3.6	Are you currently working in income earning activities other than household & family work?	Yes – 1, No – 2	

[1] 1-Government, 2-Commercial Bank, 3-Cooperative Banks/Societies, 4-SHG/NGO, 5-Traders, 6-Professional Money Lenders, 7-Agriculturist Money Lender, 8-Friends/ Relatives, 9-Others.

[2] 1-Marriage and other Social Ceremonies, 2- Festivals, 3-Medical treatment, 4-Purchase of Land/House,6-Purchase of Livestock, 7-For Business, 8-For Agricultural Works (inputs), 9-For Education of Children, 10-Others.

Details of Family Members:

S. No	Name	Relationship &	Sex (1.Male 2. Female)	Age	Marital status#	Educational level €	Occupation@	Monthly Income %	Monthly Expenditure $	Bank Account (1.yes 2. No)	Disease if any≠
1											
2											
3											
4											
5											
6											
7											
8											
9											
10											

& 1.Self 2. Husband 3. Son/daughter 4.Daughter/son in law 5.Grand son/daughter 6. Father/mother 7.brother/sister 8. Mother/father in law 9. Sister/ brother in law 10. Nephew/niece 11.Servant/employee/other

1. Unmarried 2. Married 3. Widow/widower 4. Separated 5. Divorced

€ 1. Illiterate 2. Only literate 3. Below primary/informal education/madarsa 4. Primary 5. Middle 6. Secondary Passed 7. Senior secondary passed 8. Graduate 9. PG degree

@ 1. Casual labourer 2. Domestic servant 3. Regular salaried (government servant) 4. Regular salaried (private sector) 5. Self-employed 6. Domestic work but engaged in gainful economic activities (sewing, tailoring, weaving, etc) 7. Unemployed 8. Student 9. rentair/pensioner/ remittance recipient 10. Too old/too young (unable to work)11. Domestic work 12. No work 13. Engaged in agriculture 14. Other (specify)

% 1. Less than 1000 2. 1000 to 5000 3. 5000 to 20000 4. 20000to 50000 5. More than 50000.

$ 1. Less than 1000 2. 1000 to 5000 3. 5000 to 20000 4. 20000to 50000 5. More than 50000.

≠ No ailment-1, Gastro-intestinal-2, Cardiovascular-3, Tuberclosis-4, Bronchial Asthama-5, Disorders of joints and bones-6, Kidney/Urinary system-7, Neurological disorders-8, Psychiatric disorders-9, Eye ailments-10, Skin disease-11, Diabetes-12, Under nutrition-13, Anemia-14, Sexually Transmitted diseases-15, Febrile illness (Malaria, Whooping Cough, Fever etc.)-16, Diseases of mouth/teeth/Gum-17, Accidents/Injuries/ Burns/Fractures/Poisoning-18, Cancer and other Tumors-19, Other diagnostic ailments-20, other un-diagnostic ailments

4	Fertility Behaviour Information	Coding Categories	
4.1	How old was you at the time of marriage	.....	
4.2	How many living sons and daughters do you have?	Son	
		Daughter	
		Total	
4.3	Did any of your pregnancy ends in abortion or stillbirth?	Yes – **1**, No – **2**	
4.4	Do you like to have another child?	Yes – **1**, No – **2**	
	If **yes**, would you like to have a son or daughter?	Son – **1**, Daughter-**2**, No preference - **3**	
4.5	How many children should be procreated	**1 / 2 / 3 / 4 /** More than**4**	
	If more than 2, what are the reasons		
4.6	Is the procreation of son essential	Yes – **1**, No – **2**	
	If **yes**, what are the reasons		
4.7	If a couple has two sons, should a third child be procreated for with the hope of having a daughter	Yes – **1**, No – **2**	
	If **yes**, please specify the reasons		

5	Antenatal, Natal and Post-natal care		Coding Categories	
5.1	Are you currently pregnant?		Yes – **1**, No – **2**	
5.2	Did you get pregnant during the last 5 years?		Yes – **1**, No – **2**	
5.3	If yes, what was the outcome of the last pregnancy?		Live Birth-**1**, Still Birth-**2**, Aborted-**3**	
5.4	Did you go for antenatal check-up during the last pregnancy?		Yes – **1**, No – **2**	
	If **yes**, where did you go?		CHC-**1**, PHC-**2**, Sub-Centre-**3**, Private Practitioner-**4**, Others-**5**	
	If **yes**, how many times		1 / 2 / 3 / 4 / 5	
	If **no**, what is/are the reasons	Lack of Knowledge of the services	Yes – **1**, No – **2**	
		Did not feel necessary	Yes – **1**, No – **2**	
		Could not afford/Cost too much	Yes – **1**, No – **2**	

		Too far	Yes – 1, No – 2	
		Poor quality service	Yes – 1, No – 2	
		Lack of time to visit	Yes – 1, No – 2	
		Not Permitted to go	Yes – 1, No – 2	
		Better Care at home	Yes – 1, No – 2	
		Others (Specify).....	Yes – 1, No – 2	
5.5	During your visit for antenatal check-up, do you receive	BP measured?	Yes – 1, No – 2	
		Weight Taken?	Yes – 1, No – 2	
		Urine Test?	Yes – 1, No – 2	
		Test for anaemia	Yes – 1, No – 2	
		TT injection	Yes – 1, No – 2	
		IFA Tablet	Yes – 1, No – 2	
		Others	Yes – 1, No – 2	
5.6	During your last pregnancy, did you suffer from any complication?		Yes – 1, No – 2	
	If **yes**, whom did you consult?		ASHA-1, ANM-2, Private Doctor-3, Doctor at PHC/CHC-4, Any other (specify)-5	
5.7	Where was the baby delivered		Home-1, Sub Centre-2, Govt Hospital-3, Private Hospital-4, Other (Specify)-5	
5.8	If at **Govt. Health Facility**, when you returned back to home after delivery		12-24 hrs (1day) – 1 25-48 hrs (2days) – 2 More than 2 days - 3	
5.9	If at **Private hospital** what was the reason for not availing government services? Please specify			
5.10	If **at home**, what was the reason of not having institutional delivery?	Money Constraints	Yes – 1, No – 2	
		Family Decision	Yes – 1, No – 2	
		Distance of hospital	Yes – 1, No – 2	
		Did not feel necessary	Yes – 1, No – 2	
		Other.....	Yes – 1, No – 2	
5.11	Did you **breastfeed** your child after delivery		Yes – 1, No – 2	
	If **yes**, how soon after the birth did you start breastfeeding?		Same day within 2 hours of birth -1, Same day after 2	

			hours of birth-**2**, Afterwards-**3**	
5.12	Before initiation of breast feeding, did you removed the **yellow colour milk** before feeding the child?		Yes – **1**, No – **2**	
	If **not** within 2 hrs, why?	Wrong perception related to immediate production of milk after delivery	Yes – **1**, No – **2**	
		Post delivery problems	Yes – **1**, No – **2**	
		Pre-lacteal is important than breastfeeding	Yes – **1**, No – **2**	
		First Milk is impure	Yes – **1**, No – **2**	
		Other	Yes – **1**, No – **2**	
			Yes – **1**, No – **2**	
5.13	After Delivery till 6th Week, did you faced any health problem?		Yes – **1**, No – **2**	
	If **yes**, who did you consulted?		ASHA-**1**, ANM-**2**, Private Doctor-**3**, Doctor at PHC/CHC-**4**, Any other .....(specify)-**5**	
	Are you satisfied from their services		Very Satisfied -**1**, Satisfied -**2**, Moderate -**3**, Dissatisfied-**4**, Very Dissatisfied -**5**	

6.0	**Attitude towards ASHA & their role**	**Coding Categories**	
6.1	Do you know the **name of** your concerned **ASHA**?	Yes – **1**, No – **2**	
6.2	Did she visit your house in your last pregnancy?	Yes – **1**, No – **2**	
	If **yes**, how many **times**	.....	
6.3	Did she accompany you to hospital for **institutional delivery**?	Yes – **1**, No – **2**	
6.4	Did you get the benefit of JSY scheme?(Last Pregnancy)	Yes – **1**, No – **2**	
	If **yes**, how much	.....	
6.5	In case of **Home Delivery**, did she visit your house after delivery	Yes – **1**, No – **2**	
	If **yes**, the first visit made after?	Within 1 hour-**1**, within 24 hour-**2**, within first week-**3**, within first 14 days-**4**	

6.6	Did you get the **benefit of JSY** scheme in case of home delivery? (Last Pregnancy)	.....	
6.7	Did ASHA visit your home in general days?	Yes – **1**, No – **2**	
	If **yes**, her frequency of visit	Daily-1, weekly-2, biweekly-3,	
6.8	What is your general **opinion regarding ASHA** of your village?	Excellent-**1**, Very Good-**2**, Good-**3**, Average-**4**, Poor-**5**	
6.9	How is ASHA's behaviour towards you and your health problems?	Courteous-**1**, Casual/indifferent-**2**, Insulting-**3**	
6.10	Are you **satisfied** by the work of ASHA under NRHM?	Excellent-1, Very Good-2, Good-3, Average-4, Poor-5	
6.11	Do you want to **work as an ASHA**?	Yes – **1**, No – **2**	

7	**Attitude towards ANM/Sub Centre & their role**	**Coding Categories**	
7.1	Do you **visit** your concerned **Sub Centre**?	Yes – **1**, No – **2**	
	If yes, how many times a month	Daily-2, Weekly-3, Bi-weekly-4,	
7.2	Do you know the **name** of your concerned **ANM**?	Yes – **1**, No – **2**	
7.3	Is she **staying in your village**/sub centre's village?	Yes – **1**, No – **2**	
7.4	Do you feel any **problem in reaching Sub Centre**?	Yes – **1**, No – **2**	
	If **yes,** what is the problem?	.....	
7.5	Did **ANM visit your house** at the time of last pregnancy?	Yes – **1**, No – **2**	
7.6	Did **ANM visit your home after** the delivery of baby at your house?	Yes – **1**, No – **2**	
7.7	Have you **participated** in any type of **meeting** organised by ANM at sub centre in recent 6 months?	Yes – **1**, No – **2**	
	If **yes**, how many times	.....	
7.8	How is **ANM's behaviour towards you** and your community	Courteous-**1**, Casual/indifferent-**2**, Insulting-**3**	
7.9	Are you **satisfied by the work of ANM** in your village?	Excellent-**1**, Very Good-**2**, Good-**3**, Average-**4**, Poor-**5**	

8	**Community Linkages to PHC**		
8.1	Do you **visit PHC** for treatment of any ailment?	Yes – **1**, No – **2**	
8.2	If **yes**, how often you visit PHC for treatment of any ailment?	Sometimes -**1** As and when required-**2**, when disease remain persistent-**3**, at critical conditions-**4**, Never-**5**	
8.3	If **not**, what are the reasons for not visiting PHC for treatment of ailments? (Please Specify)		
8.4	In case of health emergency, whom would you call?	ASHA-**1**, ANM-**2**, Pvt. Doctor- **3**, Any Other - **4**.	
8.5	Do you know the mobile number for calling government **ambulance**?	Yes – **1**, No – **2**	

Annexure-2

STATE, COMMUNITY AND RURAL HEALTH IN INDIA: AN EVALUATION OF NRHM IN MAJORITY AND MINORITY CONCENTRATED VILLAGES OF ALIGARH DISTRICT

Accredited Social Health Activist (ASHA) SCHEDULE **S.No.....**

1. Identifying Information			
1.1	Name of the Block:	1.2	Name of the Village:
1.3	Name of the Sub Centre	1.4	Residential Address:

2.	General Information	Coding Categories	
2.1	Total population covered	.....	
2.2	Do you work in the same village where you stay?	Yes – 1, No – 2	
2.3	The distance of the remotest family from your house (in km)	<1Km-**1**, 1-2km**2**, >3km-**3**.	
2.4	The distance of the Sub Centre from your house (in km)	<1Km-**1**, 1-3km-**2**, 3-5km-**3**, >5km-**4**	

3	Selection Process	Coding Categories	
3.1	Were there any focused group discussion (FGDs) held in your village before selection of ASHA?	Yes – 1, No – 2, Don't know-3	
3.2	Did the FDGs involve awareness about concept, roles and activities of ASHA among the village community?	Yes – 1, No – 2, Don't know-3	
3.3	Was there a 'Gram Sabha' meeting held during the selection process of ASHA?	Yes – 1, No – 2, Don't know-3	

4.	Training	Coding Categories	
4.1	Have you received any training after joining?	Yes – 1, No – 2	
4.2	Was the training given to you useful in:		
	Developing and improving knowledge & Skills?	Yes – 1, No – 2	
	Solving your doubts and trouble?	Yes – 1, No – 2	
4.3	Do you receive regular 'on the job training' at your village?	Yes – 1, No – 2	
4.4	If yes, who provides on the job training?	ANM/NGO/Others.. (Specify)	

5	Roles & Responsibilities	Coding Categories	
5.1	Have you been given a drug kit?	Yes – 1, No – 2	
5.2	Do you receive regular supply of items/medicines of drug kit?	Yes – 1, No – 2	
5.3	If No, then why (Specify Reasons)		
5.4	To which Health facility do you escort the pregnant women or sick children?	Sub-centre-1, PHC-2, Private Hospital-3, Other -4	

6	Service Delivery under NRHM	Coding Categories	
6.1	Do you also attend home deliveries in your area?	Yes – 1, No – 2	
6.2	Do you counsel couples for proper spacing among two consecutive births?	Yes – 1, No – 2	
6.3	Are you a member of any committee at village/Sub Centre level?	Yes – 1, No – 2	
6.4	If yes then name the committees:		

8	Knowledge, Behaviour & Attitude	Coding Categories	
7.1	Do you know the full form of ASHA?	Yes – 1, No – 2	
7.2	Do you know about different schemes implemented by government under NRHM for pregnant women and new born baby?	Yes – 1, No – 2	
7.3	If yes, please name them		
	JSY	Yes – 1, No – 2	
	JSSK	Yes – 1, No – 2	
7.4	What is your role in disbursement of JSY to the expected mothers?.....		

8	Coordination & Monitoring	Coding Categories	
8.1	Is there any ANM posted in your sub-centre?	Yes – 1, No – 2	
8.2	If yes, does she reside/stay in the village?	Yes – 1, No – 2	

8.3	Is there any Health Worker (male) in yours sub-centre?	Yes – 1, No – 2	
8.4	If yes, does he reside/stay in the village?	Yes – 1, No – 2	
8.5	Does Safai Karamchari visiting your sub-centre	Yes – 1, No – 2	
8.6	Who monitor and supervise your work?	Pradhan-1, MOIC-2, Community-3, Any Other - 4	
8.7	How many times you meet ANM in a month?	Every day-1, Weekly-2, Monthly-3, Rarely -4	
8.8	Do you receive proper support from ANM for:		
	Refilling Drug Kit	Yes – 1, No – 2	
	On the Job Training	Yes – 1, No – 2	
8.9	How is the behavior of the ANM with you?	Courteous-1, Casual/indifferent-2, Insulting/derogatory-3	
8.10	If ANM is absent, to whom you submit your report for incentives?	.....	
8.11	Have you established direct coordination with MOIC	Yes – 1, No – 2	
8.12	If yes, in what activities?		
8.13	How often do ANM visit the sub-centre?	Every day-1, Weekly-2, Monthly-3, Rarely -4	
8.14	Are these facilities available in the sub-centre?		
	Delivery Table	Yes – 1, No – 2	
	Medical equipment	Yes – 1, No – 2	
	Weighing Machine	Yes – 1, No – 2	
	Delivery Kit	Yes – 1, No – 2	
	Urine test for the presence of protein and sugar by using Dipsticks	Yes – 1, No – 2	
	Estimation of haemoglobin by using an approved Haemoglobin Colour Scale	Yes – 1, No – 2	
8.15	Do you think ANM are capable in performing their role effectively?	Strongly Disagree-1, Disagree-2, Undecided-3, Agree-4, Strongly Agree-5	
8.16	Are you actively involved with the local Panchayati Raj Institution (PRI)/Village Health Committee (VHC) in your village?	Yes – 1, No – 2	
8.18	If yes, then do you know the number of members and their names?		

8.19	Would you like to work as an ANM later on?	Yes – 1, No – 2, Don't know-3	
8.20	Is there any increase in health insurance in last few years?	Yes – 1, No – 2	
8.21	If yes, whether it is private or public?	Privately Owned-1 Public Owned-2	
8.22	Do you feel, religion plays any role in availing health services?	Strongly Disagree-1, Disagree-2, Undecided-3, Agree-4, Strongly Agree-5	
8.23	If Agree/Strongly Agree, how?		
8.24	Is there increase in the institutional deliveries in last five years?	Yes – 1, No – 2, Don't know-3	
8.25	If yes, then what are the reasons? Enlist them.		
8.26	Are you actively involved in the local activities of Panchayati Raj Institution (PRI)/Village Health & Sanitation Committee (VHSC) in your concerned area?	Yes – 1, No – 2	
8.27	How many times did you meet with the PRIs representatives?	Every day-1, Weekly-2, Monthly-3, Rarely -4	

Annexure-3

STATE, COMMUNITY AND RURAL HEALTH IN INDIA: AN EVALUATION OF NRHM IN MAJORITY AND MINORITY CONCENTRATED VILLAGES OF ALIGARH DISTRICT

Auxiliary Nurse Midwife (ANM)/Sub-Center Schedule **S.No.....**

1. Identifying Information			
1.1	Name of the Block:	1.2	Name of the Village:
1.3	Age:	1.4	Religion (Hindu-1, Muslim-2,Other-3): .....
1.5	Marital Status (Married–1, Unmarried–2, Any Other-3):.....	1.6	Educational Status:

1.6 Name of Villages under your sub-centre:

S.No	Name of the Village	Total Population

2.	General Information	Coding Categories	
2.1	The distance of the Sub Centre from the remotest target village (in km)	<2Km-1, 2-5km-2,>5km-3.	
2.2	The distance of the Sub Centre from the PHC (in km)	<5Km-1, 5-10km-2,10-15km-3, >15km-4	
2.3	Do you provide OPD services to community members at Sub Centre	Yes – 1, No - 2	
2.3.1	If yes, timing of the OPD	Morning:	
		Afternoon/Evening:	
2.4	Is there any facility for your residence in the village?	Yes – 1, No - 2	
2.4.1	If yes, do you permanently reside in the village?	Yes – 1, No – 2, NA-3	
2.4.2	If not, how far away do you reside?		

3.	Infrastructure & Facilities at SC	Coding Categories	
3.1	Type of Sub-Centre (Type A/Type B)	TypeA:1,TypeB: 2	
3.2	Building	Own : 1, Rented: 2	

3.2.1	Is there any residential facility for ANM within Sub Centre	Yes – 1, No – 2	
3.3	Are these facilities available in your sub-centre?		
	Delivery Table	Yes – 1, No – 2	
	Medical equipment	Yes – 1, No – 2	
	Weighing Machine	Yes – 1, No – 2	
	Delivery Kit	Yes – 1, No – 2	
	Urine test for the presence of protein and sugar by using Dipsticks	Yes – 1, No – 2	
	Estimation of haemoglobin by using a approved Haemoglobin Colour Scale	Yes – 1, No – 2	
3.4	Electricity connection	Yes – 1, No – 2	
3.4.1	If yes, for how many hours electricity is been supplied?	<12 Hours – **1**, 12-18 Hours – **2**, >18 Hours - **3**	
3.5	Telephone	Yes – 1, No – 2	
3.6	Water supply for 24 hours	Yes – 1, No – 2	
3.7	Toilet Facility	Yes – 1, No – 2	
3.8	Boundary Wall	Yes – 1, No – 2	
3.9	Board displaying the name of Centre	Yes – 1, No – 2	
3.10	Display board	Yes – 1, No – 2	
3.11	Number of Rooms	.....	
3.12	Provision of DOTS at Sub-centre	Yes – 1, No – 2	
3.13	Is moped/two wheeler provided	Yes – 1, No – 2	
3.14	Do you receive regular and sufficient supply of necessary drugs?	Yes – 1, No – 2	
3.15	If yes, do you distribute to the patients coming to your sub centre?	Yes – 1, No – 2	
3.16	If no, where they do go for procurement of Medicine	PHC – 1, CHC – 2, Local Medicine Shops- 3, Other – 4 (Specify.....)	
3.17	Surrounding Physical Condition of Sub-Centre		
	Evidence of any Garbage bin near Sub-Centre	Yes – 1, No – 2	

	Evidence of any Water Lodging near Sub-Centre	Yes – 1, No – 2	
	Evidence of any Cattle shed near Sub-Centre	Yes – 1, No – 2	

4	**Manpower/Human Resource**	**Coding Categories**	
4.1	Is there any other ANM posted in your sub-centre?	Yes – 1, No – 2	
4.2	If yes, does she reside/stay in the village?	Yes – 1, No – 2, NA-3	
4.3	Does she co-operate you?	Yes – 1, No – 2	
4.4	Is there any Health Worker (male) in yours sub-centre?	Yes – 1, No – 2	
4.5	If yes, does he reside/stay in the village?	Yes – 1, No – 2, NA-3	
4.6	Does he co-operate you?	Yes – 1, No – 2	
4.7	Does Safai Karamchari visit your sub-centre	Yes – 1, No – 2	
4.8	If yes, Is he on fulltime basis?	Yes – 1, No – 2, NA-3	

5	**Interventions Under NRHM / Activities?**	**Coding Categories**	
5.1	Are you been consulted for the selection of ASHA in your area?	Yes – 1, No – 2	
5.2	How many ASHAs were initially appointed in your sub-centre?	.....	
5.3	How many ASHAs presently working?	.....	
5.4	How often do you meet with the ASHAs of your concerned villages?	Every day-1, Weekly-2, Monthly-3, Rarely -4	
5.5	How often do ASHAs visit your sub-centre?	Every day-1, Weekly-2, Monthly-3, Rarely -4	
5.6	Rank in descending order the following roles/contribution of ASHA under NRHM(1,2,3,4,5,6,7)		
	i. Mobilizing Community to avail health services available with her and at SC level	1, 2, 3, 4, 5, 6, 7	
	ii. Providing Health information to the community	1, 2, 3, 4, 5, 6, 7	
	iii. Identifying and accompanying delivery cases to health services	1, 2, 3, 4, 5, 6, 7	
	iv. Providing new-born baby care	1, 2, 3, 4, 5, 6, 7	
	v. Acting as depot holders	1, 2, 3, 4, 5, 6, 7	
	vi. Identifying community needs related to health through group meetings etc.	1, 2, 3, 4, 5, 6, 7	
	vii. Motivating community for family planning services	1, 2, 3, 4, 5, 6, 7	
5.7	How often do you visit government schools of	Every day-1, Weekly-2, Monthly-3, Rarely -4	

	your target villages?		
5.8	What is the amount of the fund allocated to your sub-centre annually under NRHM?	.....	
5.9	Have you received the grant for your sub centre so far?	Yes – 1, No – 2	
5.10	If yes then how much per annum?	.....	
5.11	Do you receive regular grant of Rs.10000 per annum?	Yes – 1, No – 2	
5.12	If Yes how do you spend it? Please Specify		
5.13	If No, what are the reasons?		
5.14	What do you do with the grant/untied fund?		
	In repairing and renovations	Yes – 1, No – 2	
	In purchasing equipment	Yes – 1, No – 2	
	In buying medicines	Yes – 1, No – 2	
	For Electricity supply	Yes – 1, No – 2	
	Any other		
5.15	Whether you spent all the amount of the untied fund?	Yes – 1, No – 2	
5.16	Have you faced any problem in/after spending the funds?	Yes – 1, No – 2	
5.17	If yes, then what? (Please Specify)		
5.18	Do you think Rs. 10000 is adequate for untied fund?	Yes – 1, No – 2	
5.19	If No, then how much will be adequate?	.....	

6	**Service Delivery under NRHM**	**Coding Categories**	
6.1	Do you organize Health and Nutrition Day?	Yes – 1, No – 2	
6.2	If yes, how many times a month?	.....	
6.3	Do you organize Immunization Sessions?	Yes – 1, No – 2	
6.4	If yes, then on which day /days of the week/month?	.....	
6.5	Do you provide any type of OPD services at Sub-centre?	Yes – 1, No – 2	
6.6	If yes, then for how many hours per day and how many days in a week?	Hours per day: ..... Days per Week:.....	

6.7	Do you provide ANC to the expected/pregnant women?	Yes – 1, No – 2	
6.8	If yes, then how many times?	1/2/3/4	
6.9	Do you provide Post Natal Check-up (PNC) to the mother & the new born baby after returning from health facility?	Yes – 1, No – 2	
6.10	If yes then after how many times and after how many days ?	How many times:..... After how many days:.....	
6.11	Do you conduct deliveries?	Yes – 1, No – 2	
6.12	Do you conduct deliveries at Home?	Yes – 1, No – 2	
6.13	Do you conduct deliveries at the Sub-Centre?	Yes – 1, No – 2	
6.14	How many deliveries on an average you conduct in a month?	No. of deliveries at Home: No. of deliveries at SC: Total	....
6.15	Do you also attend home deliveries in your area?	Yes – 1, No – 2	
6.16	Are you a member of any committee at village/Sub Centre level?	Yes – 1, No – 2	
6.17	If yes, name the committees:		

7	**Knowledge, Behaviour & Attitude**	**Coding Categories**	
7.1	Do you know the full form of NRHM?	Yes – 1, No – 2	
7.2	Do you know about different schemes implemented by government under NRHM for pregnant women & new born baby?	Yes – 1, No – 2	
7.3	If yes, please name them		
	JSY	Yes – 1, No – 2	
	JSSK	Yes – 1, No – 2	
	Any Other.....	Yes – 1, No – 2	
7.4	Do you know the full form of ASHA?	Yes – 1, No – 2	

8	**Coordination & Monitoring**	**Coding Categories**	
8.1	To whom you are responsible for your work?	Pradhan-1, MOIC-2, Community-3, Any Other - 4	
8.2	Who monitor and supervise your work?	Pradhan-1, MOIC-2, Community-3, Any Other - 4	

8.3	How often you meet with your supervisor?	Every day-1, Weekly-2, Monthly-3, Rarely -4	
8.4	How often does MOIC/Doctor from PHC visit your Sub-Centre?	Every day-1, Weekly-2, Monthly-3, Rarely -4	
8.5	Are you actively involved in the local activities of Panchayati Raj Institution (PRI)/Village Health & Sanitation Committee (VHSC) in your concerned area?	Yes – 1, No – 2	
8.6	If yes, then do you know the number of members and their names?	Yes – 1, No – 2	
8.7	How many times you met with the PRIs representatives?	Every day-1, Weekly-2, Monthly-3, Rarely -4	
8.8	How often PRI representative visit your Sub-Centre?	Every day-1, Weekly-2, Monthly-3, Rarely -4	
8.9	How often other VHSC members visit your Sub-Centre?	Every day-1, Weekly-2, Monthly-3, Rarely -4	
8.10	Do you receive proper support from the PRI & VHSC for:		
	Creating awareness for health and hygiene among the villagers?	Yes – 1, No – 2, Don't know-3	
	Conduct of cleanliness and sanitation programs?	Yes – 1, No – 2, Don't know-3	
	Construction of Toilets?	Yes – 1, No – 2, Don't know-3	
	Monetary requirements if any?	Yes – 1, No – 2, Don't know-3	
8.11	Do you feel, religion plays any role in availing health services?	Strongly Disagree-1, Disagree-2, Undecided-3, Agree-4, Strongly Agree-5	
8.12	If Agree/Strongly Agree, please give reasons?.....		
8.13	Is there increase in the institutional deliveries in five years?	Yes – 1, No – 2, Don't know-3	
8.14	If yes, then what are the reasons? Enlist them.		

Annexure-4

STATE, COMMUNITY AND RURAL HEALTH IN INDIA: AN EVALUATION OF NRHM IN MAJORITY AND MINORITY CONCENTRATED VILLAGES OF ALIGARH DISTRICT

Primary Health Centre (PHC) SCHEDULE **S.No.....**

1.	General Information	Coding Categories	
1.1	Is it an upgraded PHC	Yes – 1, No - 2	
1.2	Number of Sub-centres Covered	.....	
1.3	Total population covered	.....	
1.4	Total number of Villages catered by/under PHC	.....	
1.5	Total number of Gram Panchayats under PHC	.....	
1.6	Timing of the OPD	Morning	
		Afternoon/Evening	

2.	Infrastructure & Facilities		
2.1	Type of PHC	Type A-1, TypeB-2	
2.2	Does the health facility displaying Charter of Patients' Rights including patient's rights and duties in local language?	Yes – 1, No - 2	
2.2.1	Is the Charter of Patients' Right is displayed at visible location	Yes – 1, No - 2	
2.3	Are the names, address and contact number of the members of RKS/Hospital Management Committee displayed for public information.	Yes – 1, No - 2	
2.4	Area of the Building		
2.5	OPD Rooms	Yes – 1, No – 2	
		Number/Detail	
2.6	Waiting room for patients		
2.7	Wards	Male:	
		Female:	
2.8	Number of Beds	Male:	
		Female	
2.9	OT		

2.10	Minor OT		
2.11	Labour Room		
2.12	Laboratory		
2.13	Blood Storage Room		
2.14	Pharmacy		
2.15	Public Utility with running water (Male)		
2.16	Public Utility with running water (Female)		
2.17	Nursing Station		
2.18	Functional Vehicles		
2.19	Facility of Food for IPD patients		
2.20	Does PHC have required as per the norms of NRHM equipment necessary for conducting deliveries	Deliveries: Yes – 1, No – 2	
2.21	Do you receive regular and sufficient supply of drugs for PHC pharmacy?	Yes – 1, No – 2	
2.21.1	If yes, do all patients receive prescribed medicine from PHC pharmacy?	Yes – 1, No – 2	
2.21.2	If no, where they do go for purchase of Medicine (Jawan/Aligarh)	Jawan – 1, Aligarh – 2, Other – 3 (Specify.....)	
2.22	Is PHC provided as many pillow cover , bed-sheet as to replace them for wash in a week?	Yes – 1, No – 2	
2.22.1	If No, in how many days pillow covers and bed sheets are replaced for Wash (Bi-weekly/ Monthly)	Weekly – 1, Bi-weekly – 2, Monthly - 3	
2.23	How many hours electricity is been supplied?	<12 Hours – 1, 12-18 Hours – 2, >18 Hours - 3	
2.24	Is their generator in PHC?	Yes – 1, No – 2	
2.24.1	If yes, is it functional	Yes – 1, No – 2	

3.0	**Manpower/Human Resource**	PHSC Norm	Sanctioned Post	Number Available
	Medical Officer – MBBS	1		
	Medical Officer - AYUSH			
	Accountant cum Data Entry Operator	1		
	Pharmacist	1		
	Pharmacist AYUSH			
	Nurse-midwife (Staff-Nurse)	3(TypeB-4)		
	Health Worker (Female)(ANM for	1		

	Sub Centre)			
	Health Assistant (Male)	1		
	Health Assistant (Female)/Lady Health Visitor	1		
	Health Educator			
	Laboratory Technician	1		
	Cold Chain & Vaccine Logistic Assistant			
	Multi-skilled Group D worker	2		
	Sanitary worker cum watchman	1		
	Total			

4.			Coding Categories	
4.1	Are all doctors and nurses provided residential facility in the premise of PHC?		Yes – 1, No - 2	
4.2	If No, how many doctors and staff nurses have residence in the premise of PHC?		Doctors: Nurses:	
4.3	How many Doctors and Staff Nurses are deployed for night duty?		Doctors: Nurses:	
4.4	In your perception, after implementation of NRHM there been any improvement in the situation of the following	Infrastructure	Yes – 1, No - 2	
		Manpower Availability	Yes – 1, No - 2	
		Service Availability	Yes – 1, No - 2	
		Service Delivery	Yes – 1, No - 2	
		Institutional Deliveries	Yes – 1, No - 2	
		Out Door Patients Number	Yes – 1, No - 2	
4.5	How many Out Door patients (OPD) visit the health facility per day?		Male: Female:	
4.6	How many deliveries have been conducted in the health facility during the last one year/month?			
4.7	Type of Delivery		Total	
	Normal			
	Caesarean			
	Still Birth			
	Total			
4.8	Do you have any grievance redressal mechanism/cell for patients?		Yes – 1, No - 2	
4.9	If yes then who are the members?			

4.10	Is there any functional RKS at your PHC Level?	Yes – 1, No - 2	
4.11	If yes then who are its members:-		
4.12	Do you think RKS as an effective mechanism for monitoring and evaluation of CHC & PHC activities?	Yes – 1, No - 2	
4.13	If no, please give reasons?.....		
4.14	Do you feel, religion plays a vital role in availing health services?	Strongly Disagree-1, Disagree-2, Undecided-3, Agree-4, Strongly Agree-5	
4.15	If Agree/Strongly Agree, please give reasons?.....		

Annexure-5

STATE, COMMUNITY AND RURAL HEALTH IN INDIA: AN EVALUATION OF NRHM IN MAJORITY AND MINORITY CONCENTRATED VILLAGES OF ALIGARH DISTRICT

PRI/RKS/VHSC MEMBERS SCHEDULE

(Confidential-For Research Purpose Only)

1. General Information							
1.1	Name of the Block:			1.2	Name of the Village:		
1.3	Name:			1.4	Sex:		
1.5	Age:			1.6	Religion (Hindu-1, Muslim-2,Other-3):		
1.7	Marital Status (Married–1, Unmarried–2, Any Other-3):.....			1.8	Educational Status:		
	Are you a VHSC member?	Yes – 1, No - 2			Are you a PRI member?	Yes – 1, No - 2	

2.	**About the NRHM & its Activities**	**Coding Categories**	
2.1	Are you aware of a program called NRHM?	Yes – 1, No – 2	
2.2	Do you received any orientation training on NRHM by the health department officials?	Yes – 1, No – 2	
2.3	If yes, for how many days?	.....	
2.4	Is there any amount given to your sub-centre under NRHM	Yes – 1, No – 2	
2.4.1	If yes, then how much per annum?	.....	
2.5	Have you received the untied fund for your sub-centre so far?	Yes – 1, No – 2	
2.6	How much of the untied fund was used in 2012-13?	.....	
2.7	Do you know about the guidelines for utilisation of untied fund?	Yes – 1, No – 2	
2.8	Do you spend the amount on your own wish?	Yes – 1, No – 2	
2.8.1	If No, under whose pressure?	MOIC-1, ANM-2, Both-3	

2.9	Do you feel that through NRHM programme, government has decentralized decision making process?	Yes – 1, No – 2	
2.10	Do you feel more empowered after the implementation of the NRHM?	Yes – 1, No – 2	
2.11	How often is the meeting of VHSC/PRI members held?	Weekly- 1 Monthly- 2 Quarterly- 3 Annually 4	
2.12	How often do you meet with the MOIC of your concerned PHC/ Additional PHC?	Every day-1 Weekly- 2 Monthly- 3 Rarely - 4	
2.13	How often do you meet with the ANM of your concerned villages?	Every day-1 Weekly- 2 Monthly- 3 Rarely - 4	
2.14	How often do you meet with the ASHAs of your concerned villages?	Every day-1 Weekly- 2 Monthly- 3 Rarely - 4	
2.15	Is there any role of ASHA in VHSC?	Yes – 1, No – 2	
2.15.1	If Yes, what are her roles?		
2.16	Do you feel that NRHM has improved the health service delivery in your area?	Yes – 1, No – 2	
2.17	Do you feel, religion plays any role in availing health services?	Strongly Disagree-1 Disagree-2 Undecided-3 Agree-4 Strongly Agree-5	
2.18	If Agree/Strongly Agree, please give reasons?.....		

3.	**Role of Rogi Kalyan Samiti (RKS) Members representing Gram Panchayats**	**Coding Categories**	
3.1	Are you a member of Rogi Kalyan Samiti at the PHC?	Yes – 1, No – 2	
3.2	If yes, what in your opinion is the function of RKS?	Yes – 1, No – 2	
	Addressing complaints of the patients	Yes – 1, No – 2	
	Improvement of health facility infrastructure	Yes – 1, No – 2	

	Improvement of Health Related Equipments	Yes – 1, No – 2	
	Improvement of lodging/boarding facilities to patients and their relatives	Yes – 1, No – 2	
	Any Other please specify		
3.3	What is the frequency of RKS meetings?	Weekly - **1** Monthly - **2** Quarterly - **3** Annually -**4**	
3.4	When was the last meeting held?	.....	
3.5	Are the fund allocated to RKS is adequate to meet all need?	Yes – 1, No – 2	
3.6	If not, what is the shortfall per annum in your opinion?	.....	

Annexure-6

STATE, COMMUNITY AND RURAL HEALTH IN INDIA: AN EVALUATION OF NRHM IN MAJORITY AND MINORITY CONCENTRATED VILLAGES OF ALIGARH DISTRICT

Community Health Centre (CHC) SCHEDULE **S.No.....**

1.	General Information	Coding Categories	
1.1	Is it an upgraded CHC	Yes – 1, No - 2	
1.2	Number of PHCs Covered		
1.3	Total population covered		
1.4	Total number of Villages catered by/under CHC		
1.5	Total number of Gram Panchayats under CHC		
1.6	Timing of the OPD	Morning	
		Afternoon/Evening	

2.	Infrastructure Available	Coding Categories	
2.1	Does the health facility displaying Charter of Patients' Rights including patient's rights and duties in local language?	Yes – 1, No - 2	
2.1.2	Is the Charter of Patients' Right is displayed at visible location	Yes – 1, No - 2	
2.2	Are the names, address and contact number of the members of RKS/Hospital Management Committee displayed for public information.	Yes – 1, No - 2	
2.3	Does CHC have required as per the norms of NRHM equipment necessary for conducting deliveries and surgeries	Deliveries: Yes – 1, No – 2	
		Surgeries : Yes – 1, No – 2	
2.4	Do CHC Pharmacy receive regular and sufficient supply of drugs?	Yes – 1, No – 2	
2.4.1	If yes, do all patients receive prescribed medicine from CHC pharmacy?	Yes – 1, No – 2	
2.4.2	If no, where they do go for purchase of Medicine?	Jawan – **1**, Aligarh – **2**, Other- **3** (Specify.....)	
2.5	Is CHC provided as many pillow cover , bed-sheet as to replace them for wash in a week?	Yes – 1, No – 2	

2.5.1	If No, in how many days pillow covers and bed sheets are replaced for Wash (Bi-weekly/ Monthly)	Weekly – **1** Bi-weekly – **2** Monthly – **3**	
2.6	For how many hours electricity is been supplied?	<12 Hours – **1** 12-18 Hours – **2** >18 Hours – **3**	
2.7	Is there generator facility in CHC?	Yes – 1, No – 2	
2.7.1	If yes, is it functional?	Yes – 1, No – 2	

3	**Facilities Available**	Existing	
3.1	Area of the Building		
3.2	OPD Rooms/Cubicles	Yes – 1, No – 2	
		Number/Detail	
3.3	Waiting room for patients		
3.4	Wards	Male:	
		Female:	
3.5	Number of Beds	Male:	
		Female	
3.6	OT	Yes – 1, No – 2	
3.7	Minor OT	Yes – 1, No – 2	
3.8	Labour Room	Yes – 1, No – 2	
3.9	Laboratory	Yes – 1, No – 2	
3.10	X-Ray Room	Yes – 1, No – 2	
3.11	Blood Storage Room	Yes – 1, No – 2	
3.12	Pharmacy	Yes – 1, No – 2	
3.13	Public Utility with running water (Male)	Yes – 1, No – 2	
3.14	Public Utility with running water (Female)	Yes – 1, No – 2	
3.15	Number of Clinics	Yes – 1, No – 2	
3.16	Nursing Station	Yes – 1, No – 2	
3.17	Functional Vehicles	Yes – 1, No – 2	

4.0	Facilities Available	Coding Categories	
	ECG facility	Yes – 1, No – 2	
	Fire fighting equipment	Yes – 1, No – 2	
	General Medicine Clinic	Yes – 1, No – 2	
	General Surgery Clinic	Yes – 1, No – 2	
	Dental	Yes – 1, No – 2	
	Obstetrics & Gynaecology	Yes – 1, No – 2	
	Paediatrics	Yes – 1, No – 2	
	Family Welfare	Yes – 1, No – 2	
	STI Clinic	Yes – 1, No – 2	
	Facility of Food	Yes – 1, No – 2	

5.0	Manpower/Human Resource	PHSC Norm	Sanctioned Post	Number Available
	Block Medical Officer/ Medical Superintendent			
	Public Health Specialist			
	Public Health Nurse			
	General Surgeon			
	Paediatrician			
	Obstetrician & Gynaecologist			
	Anaesthetist			
	Dental Surgeon			
	General Duty Medical Officer			
	Medical Officer - AYUSH			
	Staff Nurse			
	Pharmacist			
	Pharmacist - AYUSH			
	Laboratory technician			
	Radiographer			
	Dietician			
	Ophthalmic Assistant			
	Dental Assistant			
	Cold Chain & Vaccine Logistic Assistant			
	OT technician			
	Multi Rehabilitation/ Community based Rehabilitation worker			
	Counsellor			
	Registration Clerk			
	Statistical Assistant/Data Entry			

	Operator			
	Account Assistant			
	Administrative Assistant			
	Dresser			
	Ward Boys/Nursing Orderly			
	Driver			
	Total			

6.	Services to the Community			Coding Categories	
6.1	Are all doctors and nurses provided residential facility in the premise of CHC?			Yes – 1, No - 2	
6.2	If No, how many doctors and nurses have residence in the premise of CHC?			Doctors: Nurses:	
6.3	How many Doctors and Staff Nurses are deployed for night duty?			Doctors: Nurses:	
6.4	In your perception, after implementation of NRHM there been any improvement in the situation of the following	Infrastructure		Yes – 1, No - 2	
		Manpower Availability		Yes – 1, No - 2	
		Service Availability		Yes – 1, No - 2	
		Service Delivery		Yes – 1, No - 2	
		Institutional Deliveries		Yes – 1, No - 2	
		Increased Number of OPD patients		Yes – 1, No - 2	
6.5	How many Out Door patients (OPD) visit the health facility per day?			Male: Female:	
6.6	How many deliveries have been conducted in the health facility during the last one year?				
	Type of Delivery	Hindu	Muslim	Total	
	Normal				
	Caesarean				
	Still Birth				
	Total				
6.7	How do you receive funds under NRHM?	From the District?		Yes – 1, No - 2	
		Directly from the State		Yes – 1, No - 2	
		Others.....		Yes – 1, No - 2	
6.8	What is the frequency of receipt of funds?			Monthly - **1** Quarterly - **2** Half Yearly -**3** Annually - **4**	
6.9	Is there any delay in getting funds for NRHM?			Yes – 1, No - 2	
6.10	Do you have any grievance redressal			Yes – 1, No - 2	

	mechanism/cell for patients?		
6.11	If yes then who are the members?		
6.12	Is there any functional RKS at your CHC Level?	Yes – 1, No - 2	
6.12.1	If yes then who are the members		
6.12	Do you think RKS as an effective mechanism for monitoring and evaluation of CHC & PHC activities?	Yes – 1, No - 2	
6.12.1	If no, specify reasons.....		
6.13	Do you feel, religion plays a any role in availing health services?	Strongly Disagree-1, Disagree-2, Undecided-3, Agree-4, Strongly Agree-5	
6.13.1	If Agree/Strongly Agree, please give reasons?.....		